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DETROIT RIVER BRIDGE.

Detroit people, as such, are not to be criticized except possibly, for selfishness in desiring any kind of a bridge they can get; but it is hardly fair to try to palm off upon unsuspecting Congressmen as representative vesselmen the delegation which visited Washington in that role. Without making any insinuations about "influence," it is worth while to glance over the personnel. General Alger is a lumberman, whose rafts do not all go down so far; and if they did, the loss by a raft striking piers would amount to the cost of picking up the logs. Capt. Joe Nicholson has not sailed for a number of years, and is now workhouse superintendent at Detroit. His lack of late experience is important, owing to the rapid growth in number and size of ships passing through this narrow waterway. While Capt. J. W. Millen and Mr. Frank E. Kirby are gentlemen above all selfish notions, it is none the less true that the wrecking companies and shipbuilders at Detroit would be benefited directly by accidents that might result from bridge piers in the river. The management of the Detroit & Cleveland passenger line are warm advocates of the bridge project, but neither can they be considered as "representative" or disinterested. The Detroit boats do not need to leave the Detroit dock for an hour after their schedule time if the river is thronged with vessels; and should there be necessity of moving at once a tug would be right at hand. Vessels going up and down through the river have not this same liberty, and have often to take big chances when navigating these narrow channels.

The argument that the space between the piers of the proposed bridge is much wider than at Limekiln Crossing, is an argument against, rather than for the bridge. Limekiln Crossing is pronounced by all authorities to be just half as wide as it should be, and vessels, especially those bound down, should have nothing to hamper their movements in the channels which the presence of islands makes narrower below the line of the proposed bridge.

Good authorities also say that one of the most dangerous features of the proposition to put piers in the river is that these piers will block the ice, and cause it to gorge to an extent alarming for those on sea and shore. It would seem that the able arguments of experienced men would go far with Congress in the way of defeating such an obnoxious measure.

Mr. J. R. Oldham presents a very pointed argument against the placing of a bridge across the Detroit river, with piers in the channel. When the commercial interests of Liverpool outgrew the ferry system, nobody ever thought of such a thing as proposing to bridge the Mersey. The commerce entering and clearing from the Mersey in twelve months is only 10,500,000 tons, or only a little more than one-third of the commerce passing entirely through Detroit River in eight months. It must be argued in addition that a large portion of this ten and a half million tons is loaded and discharged at points where the bridge would not interfere, and that until the construction of the Manchester canal the Mersey was a port or rather a group of ports, and by no means a maritime highway in the same sense as is Detroit river. Mr. Oldham also estimates that a bridge without abutments in the river would prove fully as expensive as a tunnel in first cost alone, not taking into consideration the expense of renewal every third or fourth decade. The following figures, presented by Mr. Oldham, are just now full of interest:

Mount Ceniz tunnel cost.....	\$13,607,700
Mersey tunnel cost.....	12,930,000

St. Gothard tunnel cost.....	12,456,400
Severn tunnel cost.....	10,000,000
Forth bridge (original contract).....	8,000,000

American commerce will never reach the same extent as that of England until as much appreciation of the value of waterways is shown. It is not at all to the credit of American commerce that a proposition to place abutments in so great a water way as Detroit river meets with any consideration whatever at the hands of Congress.

LAUNCH OF A GOVERNMENT PATROL BOAT.

The steam tug Scout was launched last Saturday afternoon from the yard of her builders, John H. Dialogue & Son, Camden, N. J. She was christened by Fannie W. Delehanty, daughter of the supervisor of the harbor. There were present Lieut. Delehanty, U. S. N., and daughter, Commander Thomas, U. S. N., wife and daughter, Chief Engineer Barr, Metropolitan Line, superintendent of construction, and a large party of friends.

The Scout is 105 feet long over all, 20 feet beam, 10 feet deep; she has iron trunk cabin with accommodations for the crew in the forecabin, a large pilot house, and stateroom for captain and engineer on forward deck. The saloon is just behind the engines, and will be nicely fitted up in mahogany. She will be fitted with high-speed compound engines, having all pumps independent of main engine. Steam will be supplied by a water-tube boiler having large grate surface, furnishing steam at 150 pounds pressure. She will have a steam steerer, complete electric light installation, and will be fitted out complete with fire and deck equipment, crockery and silver ware.

The Scout will be used under the direction of Commander Delehanty in the supervision of the harbor of New York to prevent illegal dumping of mud, refuse, etc.

IMPROVEMENTS AT ASHTABULA.

The Pennsylvania Co. is making many improvements at Ashtabula this winter. The narrow strip between the P. Y. & A. slip and the main river is being cut back for 18 feet from its outer end. This peninsula is nearly 200 feet across, and the part which will be cut off is 185 feet long. The old dock above the piles has nearly all been removed. The piles will be pulled out, and the new dock, for which the material has already arrived, will be built in cribs, making it a much more permanent structure. This improvement widens the channel nearly 50 per cent. Besides this work and other minor improvements, the whistles which are on the Haskell dock will be removed to the dock just above the bridge where they originally were, and it is reported that a kind of coal-loading machine will be put in their place.

WANTS TO BUILD ON SOLID ROCK.

Reiboldt, Wolter & Co., of Sheboygan, Wis., who have a shipbuilding and repair yard there, contemplate removing in spring, and are said to look most favorably upon Sturgeon Bay. Mr. August Reiboldt, senior member of the firm is looking for a location where a dry-dock can be constructed with solid rock bottom and sides, large enough to accommodate anything on the lakes. Kewaunee and Green Bay are offering inducements to the firm, but Sturgeon Bay seems to be in the lead.

MAINE shipyards launched 63 vessels aggregating 13,116 tons last year.

INSURANCE FOR THE COMING SEASON.

It has been practically agreed by the lake underwriters that they will fix upon some minimum limit of damage in general average adjustments. Of late years they have been put to a great deal of trouble in connection with small damages, which did not amount to as much as the expenses entailed in setting. One lake underwriter recently showed his confreres a policy which carried on its margin a claim for 87 cents, to pay which the underwriters had been put to some considerable expense in incidentals, or costs, as the courts would put it. The necessity for this minimum limit is unanimously agreed to, the only difference between underwriters being the limit, which will probably be fixed at \$250. Some underwriters thought it should be higher, but others considered that it would be unfair to wooden boats, a touch-and-go damage to which does not usually exceed \$200 to \$300, while the same sort of an accident to a steel vessel would necessitate repairs costing several thousand dollars.

Since the meeting of the Inland Lloyds there have been comments printed which have reflected to some extent upon the past administration of Capt. Daniel McLeod, general manager and registrar, and have in effect congratulated the vessel interests that a board has been appointed over his head. Now Capt. McLeod does not stand in need of any defense; but in the interest of truth and its proper presentation, we are compelled to say that Capt. McLeod has been known for years as an advocate of a board system of classification, all through the season, and he considers the change as something gained. The difficulty heretofore with the temporary classification committees has been that they considered their work at an end at the time the register was issued in the spring, whereas the greater part of the work is performed during the season, when the burden rests almost solely upon Capt. McLeod's shoulders. Dissatisfaction has existed, it is true, and dissatisfaction exists still; but no man on earth could fill Capt. McLeod's position to the satisfaction of all owners, and very few could administer the office with so few complaints. Capt. McLeod's nether limbs are not easily pulled. The vessel owning interests are by no means unanimous in the way they want their boats valued. Many are interested in high valuations, others want them as low as possible, for outside effect. Of course, everybody wants the best class possible, but the class is fixed by rules which do not allow of much discretion. Any board, however, which assists in the compilation of the register, should meet at least once a month during the season, and listen to complaints and appeals, in order to be of the greatest efficiency. As the men now appointed are chiefly the wrecking masters of various insurance agencies, there is some hope of this procedure being brought about in time.

A SCOTCH inventor has recently brought to notice a new and valuable marine paint, the object of the article being a capacity of application in a cold state to the submerged and various other parts of ships or other craft, the effect being that of a quick-drying, anti-fouling zinc and tallow paint. For the accomplishment of this purpose a composition has been devised consisting of 40 per cent of oxide of zinc, 12 per cent of linseed oil, 28 per cent of tallow, and 20 per cent of thinnings—the later substances being composed of 60 per cent. of shale naphtha, benzoline, or other similar spirits—30 per cent of gun dammar, and 10 per cent. of rosin; these proportions are alterable to suit different waters and conditions.

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To consider and take action upon all general questions relating to the navigation and carrying business of the Great Lakes, maintain necessary shipping offices and in general to protect the common interest of Lake Carriers, and improve the character of the service rendered to the public.

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ASSOCIATION OF MASTERS AND PILOTS.

GRAND HARBOR OF AMERICA.

The annual meeting of the Association of Masters and Pilots closed in Washington on Saturday last. The old officers were all re-elected. The association endorsed the recommendation to have the officers of inspectors of steam vessels put in the classified civil service list. Several recommendations in the way of legislation were made by the Association of Masters and Pilots, and a legislative committee was appointed, consisting of Messrs. Wm. D. McManus, of St. Louis; T. I. Miller, of Brooklyn; and E. S. Randall, of Washington, D. C. This committee will go before congressional committees on all bills in which the masters and pilots have an interest, either for or against.

A conference was held between the several committees of the Masters and Pilots' Association, and those of the Marine Engineers and the Lake Ship Masters. It is believed that any reasonable legislation favored by the joint associations stands a very good chance of passage.

It is stated that the Chinese Government has assigned a large sum for the creation of a new naval fleet and is ordering ironclads, cruisers and torpedo boats. Russia, it is said, has also ordered a number of new warships to be constructed.

BRITISH SHIPPING IN 1895.

Lloyds' Register of British and Foreign Shipping has issued the following summary of shipbuilding: The total output of the world during 1895 (exclusive of war ships) appears to have been about 1,218,000 tons (1,114,000 steam, 104,000 sail). Lloyds' Register of Wreck Returns show that the seagoing tonnage of all nationalities totally lost, broken up, etc., in the course of 12 months amounts to about 700,000 tons (290,000 steam, 410,000 sail). It will thus be seen that, while the sailing tonnage of the world has been reduced by 306,000 tons during 1895, the steam tonnage has increased by about 824,000 tons. The net increase of the world's mercantile tonnage is, therefore, 518,000 tons. Of this total the net increase in the tonnage of the United Kingdom, as given above, represents about 25 per cent. Of the new tonnage launched, however, the United Kingdom has acquired 62.5 per cent.

During 1895, exclusive of war ships, 579 vessels of 950,967 tons gross (viz.: 526 steamers of 904,991 tons and 53 sailing vessels of 45,976 tons) have been launched in the United Kingdom. The war ships launched at both government and private yards amount to 59 of 148,111 tons displacement. The total output of the United Kingdom for the year has therefore been 638 vessels of 1,090,078 tons. In these remarks, warships are excluded from consideration, except where they are specially mentioned.

The output of the year in the United Kingdom is less than that of 1894 by over 95,000 tons, but the proportion of steam tonnage to the total tonnage launched has been much higher. In 1892 sailing tonnage formed no less than 24 per cent of the output; in 1893, 14 per cent; in 1894, 8 per cent, and in 1895 it has formed less than 5 per cent.

The maximum productive capacity of the shipbuilding yards of Great Britain may perhaps be nearly indicated by the output of the year 1889. That year's product may, therefore, serve as a standard with which to compare the work of 1895. In 1889, 595 steamers of 1,083,793 tons and 95 sailing vessels of 125,568 tons (total, 690 vessels of 1,209,361 tons) were launched. It will be seen that these figures exceed those for 1895 by nearly 20 per cent on the steam tonnage and by 27 per cent on the total tonnage. On the other hand, the war tonnage launched in the country during 1895 exceeded that launched during 1889 by over 100,000 tons. It may thus be said that, on the basis of tonnage launched, and taking the figures for 1889 as a standard, the shipbuilding facilities of the country have been utilized in 1895, as in 1894, to the extent of about seven-eighths.

As regards the material employed for the construction of the vessels included in the United Kingdom returns for 1865, it is found that, of the steam tonnage, nearly 98.8 per cent has been built of steel and 1.2 per cent of iron. Of the sailing tonnage, 97 per cent has been built of steel and 3 per cent of wood. No iron sailing vessel appears to have been launched during the year.

Of the total output, 718,543 steam tons and 42,493 sailing tons, or 761,036 tons in all (80 per cent) belong to ports in the United Kingdom. The sailing tonnage of the United Kingdom would thus appear to have decreased by about 108,000 tons, while the steam tonnage has increased by 237,000 tons. The net increase of United Kingdom tonnage during 1895 is therefore about 129,000 tons. This figure falls below the similar estimate for 1894 by more than 300,000 tons. The smaller net addition now estimated for 1895 is due not only to a more restricted output for shipowners of the United Kingdom, but also to a remarkable increase in sails to foreign and colonial owners, and to a considerable reduction in purchases from abroad.

About 20 per cent of the total output has been built to the order of foreign and colonial ship owners. This proportion is larger than was the case last year. In fact, while in 1895 the country has altogether launched 95,000 tons less than in 1894, it has launched nearly 50,000 tons more for owners resident abroad. Norway has provided the largest amount of work for British shipbuilders, 14 vessels of 39,756 tons (4.2 per cent of the total output) having been built for that country. Germany follows with 13 vessels of 34,053 tons (3.6 per cent). Next comes Russia, for which 29,360 tons (3 per cent) have been built. Spain has taken over 21,000 tons, and Denmark and Holland each over 14,000 tons.

The largest steamers which have been launched in the United Kingdom during the year are the following:

	Tons gross.		Tons gross.
Georgic.....	10,077	Cestrian.....	8,765
Victorian.....	8,767	American.....	8,196
Armenian.....	8,765		

The largest sailing vessel is the Dranian, 2,958 tons gross.

THE LENGTH OF LAKE ERIE.

Gen. Manager T. F. Newman, of the Cleveland & Buffalo Transit Co., has completed arrangements with General Manager David Carter, of the Detroit & Cleveland Steam Navigation Co., for the establishment of daily boat service between Toledo and Cleveland during the season of navigation. The line takes a shape that causes some wonder that the water had not been covered systematically before. The steamer City of the Straits will run on a daily or tri-weekly schedule from the opening of navigation until the first of May, when the big new steamer City of Buffalo will supplant the steamer State of New York on the Cleveland-Buffalo route. The State of New York will be transferred to the Toledo line, plying in connection with the City of the Straits. The boats will stop at Put-in-Bay. F. N. Quayle has been appointed agent at Toledo, and Nicholas Fox & Sons at Put-in-Bay.

The boats will also stop at Sandusky. Each boat, will go direct from Cleveland or Toledo to Put-in-Bay, and will then go over to Sandusky and back to the Bay again so that passengers will be certain of a stay of 3½ hours at the Islands. After the close of the season the boats will go direct to Sandusky from their initial ports, and will only touch at Put-in-Bay when the business warrants it.

In making this run to Sandusky from the Bay, and back again, the C. & B. Co. have no intention of going in for the local business between those ports, now covered by established lines; but this seems now the best means for handling passengers and freight at these two points.

The present arrangement is that the owners and builder of the City of Buffalo with a few invited guests, will make a trial trip on the City of Buffalo from Detroit to Buffalo, where a grand reception will be given her and her colors formally presented by the officials of that city. Invited guests will then go down from Cleveland on the regular boats of the line, and they, with a similar party of Buffalo people, will return on the big steamer. The Cleveland & Buffalo Co. have already established a great reputation as entertainers and nothing that could be suggested in this line will be omitted. The reception in Cleveland the following day will be equally elaborate and the Cleveland Chamber of Commerce will doubtless be entertained as a body.

VISIBLE SUPPLY OF GRAIN.

As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, February 1, 1896.

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY Bushels.
Albany.....		55,000	105,000		15,000
Baltimore.....	158,000	1,739,000	104,000	102,000	
Boston.....	1,185,000	389,000	15,000		
Buffalo.....	2,575,000	108,000	30,000	454,000	1,369,000
afoat.....	259,000		223,000		250,000
Chicago.....	20,965,000	3,753,000	771,000	262,000	21,000
afoat.....	38,400	2,453,000	227,000		
Cincinnati.....	43,000	3,000	31,000	27,000	129,000
Detroit.....	315,000	27,000	17,000	10,000	6,000
afoat.....					
Duluth and Superior.....	9,381,000	62,000	748,000	160,000	148,000
afoat.....	512,000				
Indianapolis.....	100,000	44,000	2,000		
Kansas City.....	1,434,000	5,000	55,000	27,000	
Milwaukee.....	412,000	2,000		193,000	57,000
afoat.....	176,000		120,000		
Minneapolis.....	20,245,000	159,000	532,000	126,000	217,000
Montreal.....	272,000	7,000	182,000	3,000	47,000
New York.....	5,249,000	713,000	1,803,000	24,000	168,000
afoat.....	696,000	75,000	226,000		197,000
Oswego.....	9,000	24,000			120,000
Peoria.....	20,000	442,000	290,000	1,000	
Philadelphia.....	461,000	739,000	108,000		
St. Louis.....	1,410,000	528,000	624,000	5,000	10,000
afoat.....		55,000			
Toledo.....	796,000	530,000	147,000	126,000	
afoat.....					
Toronto.....	23,000		70,000		44,000
On Canal.....		8,000	12,000		
On Lakes.....		56,000	2,000		
On Mississippi.....					
Grand Total.....	66,734,000	11,976,000	6,444,000	1,520,000	2,798,000
Corresponding date 1895.....	83,376,000	12,720,000	7,683,000	404,000	1,796,000

THE death is announced of Ferdinand Shiehau, a well-known shipbuilder of Elbing, Germany.

CORRESPONDENCE.

We do not hold ourselves responsible in any way for the views or opinions expressed by our correspondents. It is our desire that all sides of any question affecting the interests or welfare of the lake marine should be fairly represented in THE MARINE RECORD.

LICENSED DECK-HANDS.

To the Editor of The Marine Record.

The managers of the journal published in San Francisco, California, in the interest of the National Seamen's Union, have taken a Plimsolian streak and intend introducing a measure before Congress desiring that only qualified, examined and certificated seamen should be furnished each vessel, sail or steam, trading on the lakes.

Now, while fully sympathizing in all measures which trending towards the alleviation of hardships ordinarily experienced in the daily life of a sailor and warmly appreciating every effort made towards their social, moral and physical betterment or the mental development of a so generally ostracised class of men, I can not but think that the originators of the movement to license sailors are at least a decade behind the age in their attempt to influence legislation governing lake shipping.

The usual qualifications for an A B seamen is to know how to hand, reef and steer. No explanation of these terms is necessary for those who, in common parlance, "know one end of a ship from the other," nor is this the time to explain to novices the duties involved or the degrees of proficiency evinced by one over another in carrying out routine work. However, those having a slight knowledge of sailing customs may easily understand that deck-hands on the lakes are not required to know how to turn in a dead-eye, pass a reef earing or take a trick at the wheel. The two former inclusive duties are never performed in the bulk of lake tonnage and for the latter wheelmen or quartermasters are carried, and it is also safe to say that no finer steersmen are to be found in naval, mercantile or yachting circles than the general run or majority of wheelmen on lake steamers.

The days of marlin-spike sailors on the lakes passed away with the advent of steam, and the officers of the Seamen's Union ought to recognize this pertinent and vital fact. With wheelmen taking eight-hour tricks and lookouts to lead work around the decks, there are only a few fresh water laborers required on board modern tonnage, while the engine room staff carry the vessel from port to port. It is, therefore, sheer nonsense to talk of licensing deck hands on rivers and lakes nor does there seem to be any time in the future when such help will need to be loaded down with nautical lore so as to be found competent to execute orders.

On general principles a union of seamen, lake or rivermen, can not be gainsaid. Besides, there are the same reasons for associating and forming organizations on the lakes as elsewhere, and excellent results are being regularly accomplished thereby; but innovations or attempted legislation should contain merit to entitle the change or departure to any consideration, and this feature is entirely absent in the asinine effort to make roustabouts into ropehandlers. Even if successful, and legislators act queerly sometimes, this change would perpetrate a class of fresh water impostors where tar boiling is now defunct.

Now that we are likely to have several more branch hydrographic offices established at lake ports would it not be advisable to further enhance the usefulness of the department by having a short daily bulletin published in on or more papers at the important lake ports, or wired to each of the news bureaus for the information of all interested in the navigation and conduct of lake shipping. I would suggest that the time of the moon's rising, southing and setting as well as the time and direction of the sun's rising and setting, reduced to local mean time, be given regularly for the several ports. In addition to the small table necessary for the foregoing the prevailing direction and velocity of winds as reduced from available records, the set and drift of surface currents and the prevalence as well as the formation of fog banks for each week during the season of navigation might be given with other hydrographic data for each of the lakes or sections thereof. The information thus outlined would give the Hydrographic Office a practical and popular starting point in

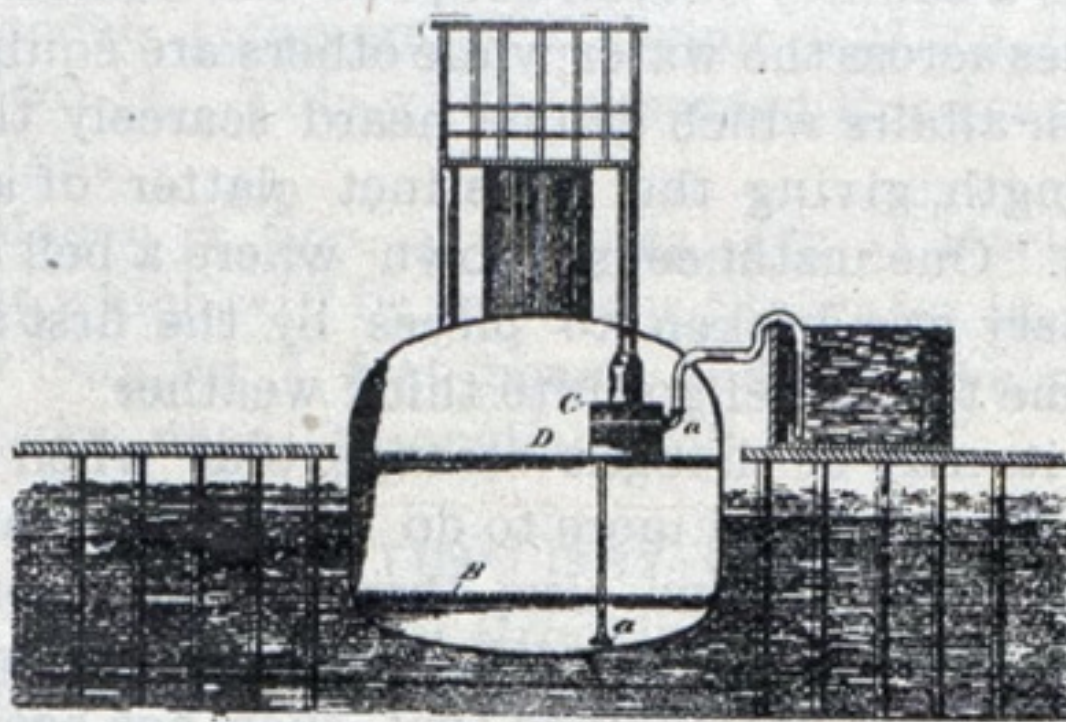
lake work and go to prove its value to marine interests in as great a degree as it has already evidenced to the coast and ocean service.

CLEVELAND, Jan. 31, 1896.

JOHN SWAINSON.

CAPT. MCDUGALL'S NEW PROCESS-PATENTS.

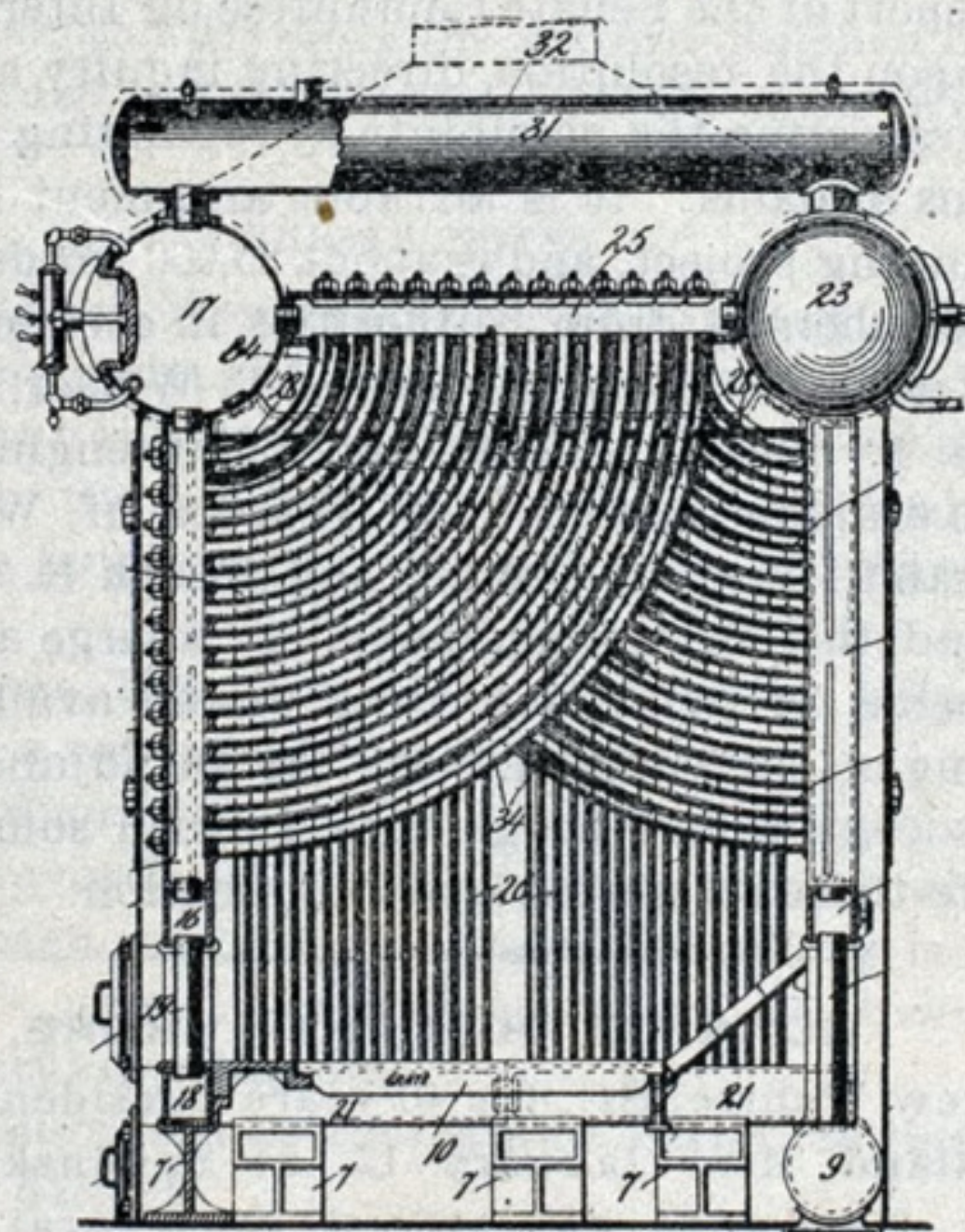
Capt. Alexander McDougall, of the American Steel Barge Co., has just patented a "Method of Coating Water Bottoms of Vessels," (No. 553,590) a process to protect which he applied May 22, 1891. The method consists in introducing a mixture of the water and the composition within the water bottom so as to entirely fill the same; then in allowing the composition to rise to the surface of the water so as to coat the under side of the top of the water bottom with the composition; then in removing the water first and the composition



afterward, so as to coat the sides and bottom of the compartments with the composition; and finally in blowing air within the water-bottom so as to dry the coating of composition.

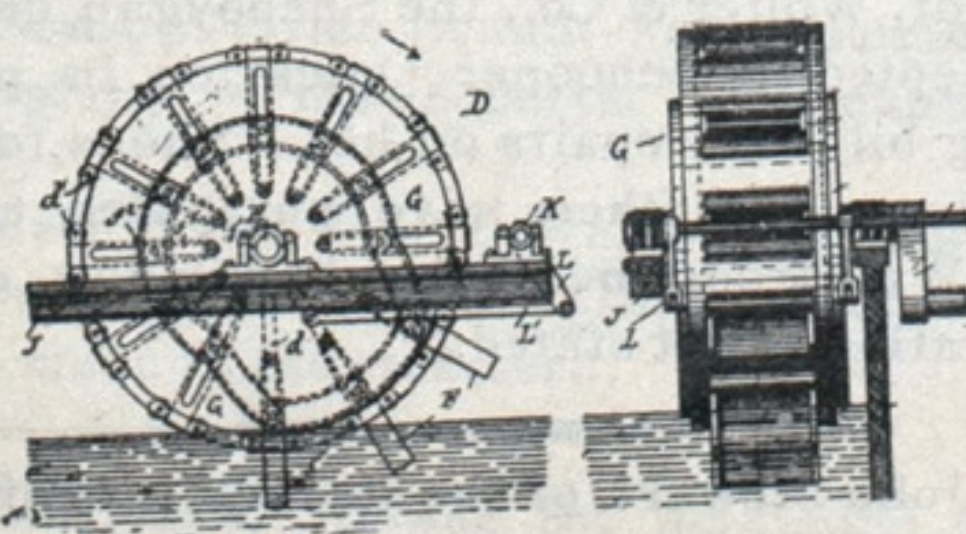
Another marine boiler has been patented (No. 553,700) by Robert R. and Henry L. Zell, assigners to the Zell Engineering Co., Limited, New Orleans, La., the application having been filed Feb. 24, 1893, and renewed July 10, 1895. The claim is as follows:

A steam boiler, comprising side walls made up of series of water-tubes having top and bottom headers, front and rear walls made up of standing headers with intermediate doors, the doors of the one wall being opposite the headers of the other wall, a mud-drum communicating with the bottom of the headers of the rear



wall, water-separators communicating with the standing headers at their upper ends and with the top headers of the side wall tubes, cross headers connecting the water separators, curved tubes connecting the cross headers and standing headers, and a steam drum communicating with the water-separators and located in the path of the outgoing products of combustion.

Still another propeller wheel has been patented (No. 553,796) by Stefano di Vecchio and Percie H. Coward, San Francisco, Cal., application having been filed Nov. 12, 1894. The claim is for the combination of a shaft, a



wheel mounted loosely thereon, a cam mounted on the shaft within the wheel and inclosed thereby, means for

shifting the cam, and slides carried by the wheel and engaging the internal cam, and means for rotating the shaft to shift the position of the cam relative to the wheel. The wheel is provided with radial slots in its side, from which arms project inward, said arms having lateral pins at their ends engaging the radial slots in the wheel; guide pins project centrally from the slides and engage the groove in the cam. Means for shifting the cam are provided so as to vary the throw of the paddle.

NEW SPECIFICATIONS FOR MARINE STEEL.

In connection with the meeting of the Association of American Steel Manufacturers at the Arlington Hotel in Washington City, Saturday, January 18, a communication was formerly presented to the Board of Supervising Inspectors of Steam Vessels, embodying the changes which the association desires to have made in the present specifications for steel plates for marine boilers.

The specifications submitted by the association provide in the first paragraph that all steel for marine boiler plates must be made by the open-hearth process and be of domestic manufacture. Paragraphs Nos. 2 and 3 prescribe the form of the test piece, elongation to be at least 25 per cent and reduction of an area the same as called for by the present rules. Paragraph No. 3 provides that "the maximum figure which can be stamped upon the steel as indicating its tensile strength shall be 60,000 pounds per square inch and the factor of safety in all cases shall be five. Paragraph No. 5 fixes the limit of phosphorus at .06 and of sulphur at .04 per cent.

In urging these changes the communication of the Steel Manufacturers' Association submitted that "under the present law there is nothing to prevent a boiler-maker from ordering steel with tensile strength of 70,000 pounds, or even 80,000 pounds per square inch and using a proportionately high steam pressure. The cost of such steel to the manufacturer is no greater than of a soft metal, so that a protest against it does not arise from any mercenary motives; but it is the unanimous opinion of the Association of American Steel Manufacturers that not only is such an increase in steam power unwarranted and dangerous, but that such hard steel is unfit for steam boilers, no matter what the pressure may be. The temptation to order such material will be removed if no increase in steam pressure is allowed for an increase in tensile strength above 60,000 pounds per square inch. The association refers to the fact that as the practice of the Board of Supervising Inspectors is based upon the results deduced from the old system of grooved test, and to the further fact that such a test gives a tensile strength 10,000 pounds above that which would be obtained from a parallel-sided test piece. Thus, it shows, that if grooved test pieces gave an ultimate strength of 60,000 per square inch, then the real strength would be about 50,000 pounds per square inch, tested in a strip with parallel sides; this being now the accepted method throughout the engineering world. The old requirement of the board calling for a factor of safety of 6 would mean for a stress of 10,000 pounds per square inch, 60,000 pounds ultimate strength, determined by the grooved test piece. The committee points out the proposed factor of safety of 5, under the modern system of tests, really insures the same ultimate strength in the plate and obviates any necessity for a change in the allowable steam pressure of boilers. Concerning the chemical test proposed, which is new, the steel manufacturers state that "there may be some difference of opinion among metallurgists as to the exact effect of certain elements upon the properties of steel, but there is perfect unanimity in regard to the injurious effect of phosphorus and sulphur. Under the present rules of the board it is perfectly possible for a manufacturer to use a metal for boilers which would not be accepted by the majority of engineers for the most important work; and it is absolutely certain that this proposed clause would be a long step in the direction of a much better and safer metal, while it would not materially enhance the cost." In deciding upon the limits asked for, the association recognized that some might desire a lower percentage of both elements, but it was submitted that the .06 for phosphorus and .04 for sulphur would insure a reliable material for boilers, while under the present specifications there is no such guarantee.



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CLEVELAND, O., FEBRUARY 6, 1896.

THE largest vessel launched in Great Britain during 1895 was the Dranian, measuring 2,958 tons gross. The gross tonnage of the lake schooners Malta and Marcia is 2,237.48 each, a very encouraging comparison.

THE detail work of continuing the fight against the Detroit River bridge has been put into the hands of an able committee, consisting of H. Coulby, Capt. George P. McKay, M. A. Bradley, Capt. James Stone, H. A. Hawgood, and Capt. J. B. Hall. They will act with General Counsel H. D. Goulder and other officers of the Lake Carriers' Association and will watch for any left-hand moves on the part of the railroads.

IN his effort before a Congressional committee on behalf of the Detroit bridge bill the other day, Hon. Roswell G. Horr, the hired advocate of the Detroit delegation, pointed out, with theatrical emphasis, the alleged inconsistency of Buffalo people in protesting against a bridge over Detroit river and advocating one over Niagara river. The comparison is too absurd to merit attention, and a man who spends his time in such talk is dishonest both to the committee whose time he is wasting, and to his employers, whose money he is not earning.

THE bill introduced by Congressman Wilson, of New York, which provides for protection for vessels from unnecessary libeling, seems as good a thing in that direction as can be expected, as it gives to the libelant all the security he could obtain under the old plan of bonding in individual suits. The Wilson bill provides for a permanent bond for each ship to be filed with the United States Marshal in whose district she is enrolled, so that when a vessel is libeled on trifling claims she need not be delayed. Notice of suit is to be handed to owner, master, or other person in charge, through the custom house.

THE Detroit Evening News prints an alleged cartoon on the bridge question. It purports to be a suggestion for bridge design, the bridge resting on the back of a razor-back porcine. This is inscribed, "Dedicated to the Hog Carriers' Association." The artist's imprint bears a striking resemblance to "Loafer." The bridge, as designed, however, has two piers in the river, and this style will not be accepted by the Lake Carriers, even as a joke. The Lake Carriers have done nothing that any business concern might properly do towards protecting its own interests, but the Detroit papers, which have changed front during the last few weeks with remarkable alacrity, are trying to convey the impression that the bridge advocates are working against a single interest, whereas, the rights of the bulk of the commerce from the Northwest are at stake.

FOG BELLS ON BARGES.

When the White law was passed a year ago, prescribing a series of "rules of the road" for the Great Lakes, one of its provisions was that every vessel towing behind a steamer or another vessel shall be equipped with a good and efficient bell, which shall be struck in series of four strokes during thick or foggy weather, in the manner in which four bells, indicating the time of day, are struck at sea. As soon as vessels began to fit out in the spring there was a clamor for a decision by the Supervising Inspector General as to what should constitute a "good and efficient bell." Certain widths were prescribed, but little or nothing was said as to the material which should compose the bells, and the result is a wide diversity in the quality of bells on vessels hailing from different districts, some barges sounding clear resonant bells of as high a grade as a country church bell, and can be heard for several miles across the water; while others are equipped with cast-iron affairs which can be heard scarcely the vessel's own length, giving the indistinct clatter of an ancient cowbell. One instance is known where a bell of the latter variety was broken to pieces by the first stroke the first time the vessel got into thick weather.

Now it may be thought strange that when the vessel men of the lakes had more to do with formulating these rules than had any one else, they should resort to such subterfuges to save a few dollars to their own great risk; and it must not be imagined that such has been the case on many of the larger and better class of barges. Again, the owners and masters have been perfectly fair in many cases, but were either taken advantage of by dealers, or else had their really good bells removed and sold by enterprising wharf rats and river thieves, poor articles being substituted. But all the same, the inspectors of the different districts do not, judging by results, appear to have clung to any single standard of excellence, and it is not impossible that some boats whose enrollments have been changed from one district to another may find their bells rejected by inspectors this year, after having undergone a season's service.

THE RECORD is indebted to the courtesy of Senator Calvin S. Brice, of Ohio, for a limited number of copies of the report of the Senate Committee on Interstate Commerce upon the resolution directing inquiry and investigation respecting the possibility of regulating lake levels by means of dams. It is an able argument in favor of the damming project, and is about 20,000 words in length. It quotes liberally from authorities in civil engineering, geology, etc., including Mr. George T. Wisner, of Detroit; Thomas T. Johnson, artist and chief engineer of the Chicago drainage canal; G. W. Blasdel, of Waverly, O.; D. Farrand Henry, of Detroit; and Joseph R. Oldham, of Cleveland, the latter recommending "a large and systematic scheme for replanting trees on all available lands bordering on the Great Lakes," as an adjunct to dams. The RECORD would be glad to furnish some of these copies to those interested upon application.

GONE TO THE OTHER SHORE.

Andrew Wehrle, Sr., for 40 years a resident of Middle Bass Island, died January 12, at Sandusky, aged 63 years. He owned an interest in several passenger steamers running out of Sandusky, and was engaged in the coal business at Sandusky with his sons, Andrew and Herman. They and one other child survive him.

Capt. William G. Traverse, who was formerly in command of the steamer Progress, died at Los Angeles, Cal., recently, at the age of 57 years. He had gone to California to regain health.

VESSEL TRANSFERS.

Michael Freimann, a Green Bay hotel man, has purchased the excursion steamer City of Green Bay for \$3,000.

Rieboldt, Wolter & Co., the Sheboygan dry-dock firm, have accepted the schooner Quickstep in payment for wrecking bill and repairs on her. She is for sale.

C. R. Jones and others have purchased the schooner Charles Wall from the Richard Winslow estate. The consideration is not stated.

Capt. John Stewart, of the steamer City of Milwaukee, is studying out a machine for discharging package freight from steamers so as to effect a great saving in cost of handling.

COMMERCE OF DULUTH AND SUPERIOR FOR '95.

THE RECORD is indebted to Maj. Clinton B. Sears, Engineer Corps, U. S. A., for the following figures relating to the commerce of Duluth and Superior, which were collected by him in accordance with an act of February 21, 1891, from reports made by the masters of all vessels visiting those ports. These were required under penalty and especial care was taken to see that no master forgot the obligation. Especial reliance, may, therefore, be placed upon these returns, as the opportunities which sometimes allow of evasion of the customs authorities were not open under Major Sears' supervision as was shown by certain complaints made at the Lake Carriers' annual meeting.

At Duluth 3,123 steam and 594 sailing and other vessels entered the canal during 1895, a total of 3,717 vessels with an aggregate registered tonnage of 3,596,148. There departed 3,074 steam and 607 sailing and other vessels, a total of 3,681 vessels, with a tonnage of 3,567,342. The total of entries and departures were 7,398 vessels, with a registered tonnage of 7,163,490.

Freight receipts at Duluth were 809,125 net tons, valued at \$17,722,351; shipments, 2,938,945 net tons, valued at \$29,974,509; total receipts and shipments, 3,748,070 net tons, valued at \$47,696,860. Passengers arrived to the number of 17,851, and 16,267 departed, a total of 34,118. The valuations given here and in the tabulated statement below are based on average wholesale prices on board vessels for shipments, and on dock for receipts.

At Superior, the arrivals were 1,438 steam and 281 sailing and other vessels, a total of 1,719, and a total registered tonnage of 1,980,656. There departed 1,396 steam and 303 other vessels, a total of 1,699 vessels of 2,062,336. The total entries and departures were 3,418 vessels of 4,042,992 tons. Freight receipts were 1,226,340 net tons, valued at \$9,721,161, and shipments were 1,436,941 tons, valued at \$38,590,731. The total of receipts and shipments is 2,663,281 tons, valued at \$48,311,892. Passengers arriving were 781, and departing 903, a total of 1,684. An itemized statement follows:

RECEIPTS.	DULUTH.		SUPERIOR.	
	NET TONS.	VALUE.	NET TONS.	VALUE.
Coal, hard.....	245,675	\$ 1,166,956	482,934	\$2,293,937
Coal, soft.....	336,007	947,540	633,115	1,785,384
Building stone.....	5,707	36,525	2,050	13,120
Salt.....	18,772	81,413	15,416	70,143
Machinery.....	10,026	2,506,500	1,549	387,250
Iron, man'd.....	39,069	1,230,674	21,477	676,525
Oil.....	545	15,788	23,913	693,483
Mis. Mdse.....	106,455	10,645,500	37,275	3,727,500
Logs.....	*136,132	952,924	*8,571	59,997
Fish.....	547	43,760	.....	.....
Cement and Lime.....	26,973	81,966	3,944	12,422
Lard.....	19,349	5,805	4,667	1,400
Total.....	809,125	\$17,722,351	1,226,340	\$9,721,161

SHIPMENTS.	DULUTH.		SUPERIOR.	
	NET TONS.	VALUE.	NET TONS.	VALUE.
Iron ore.....	1,595,057	\$ 1,866,217	114,022	\$ 133,406
Copper.....	5,629	1,125,800	35,341	7,068,200
Flour.....	407,003	12,210,069	502,954	15,088,632
Wheat.....	475,688	9,897,100	616,828	12,716,935
Other grain.....	65,058	1,276,137	85,135	1,669,953
Structural iron.....	1,061	46,684	280	12,320
Wool.....	334	73,582	3,571	785,715
Lumber.....	372,038	1,860,190	71,215	356,070
Mis. Mdse.....	17,077	1,707,700	7,595	759,500
Total.....	2,938,945	\$29,974,509	1,436,941	\$38,590,731

SUMMARY FOR DULUTH AND SUPERIOR.

No. vessels arriving.....	5,436,	registered tonnage....	5,576,804
No. vessels departing.....	5,380,	registered tonnage....	5,629,678
Total arriv. and depart.....	10,816,	registered tonnage....	11,206,482
Receipt freight, net tons 2,035,465,	valuation.....		\$27,443,512
Shipments frt., net tons 4,375,886,	valuation.....		68,564,240
Total freight, net tons.. 6,411,351,	valuation.....		\$96,007,752
Difference in favor of the Great North west			\$41,120,728

* This is M feet, and not included in total of net tons.

The annual report of the Ontario Department of Trade and Commerce shows that the total tonnage of vessels of various nations which entered and cleared at Canadian ports last year was 10,976,729 tons as compared with 10,608,611 in 1893, and 11,280,536 in 1894. The tonnage of all Canadian vessels is 2,054,024, which is third in the list, Great Britain being first with 3,994,224 tons, and the United States second with 3,707,851 tons. This is a decrease in Canadian tonnage and an increase in United States tonnage as compared with 1893 and 1894.

SHIP BUILDING AND REPAIRS.

NEW WORK AT PORT HURON.

Special Correspondence to The Marine Record.

The Jenks Ship Building Co. are getting out the frames for a large steam barge that they will build on owners' account. They have also a contract with H. M. Loud & Sons of Oscoda, to build a new hull for the tug Sumner's machinery. They will lay the keel for her some time this week.

The frames are all up and ready for planking on the new tug in which the Kittie Haight's machinery goes. Work will be pushed for all it is worth, so as to have her ready for opening of spring.

The frame is all up for Thompson & Boynton's new tug, building for the tug J. C. Ingram's engine and boiler.

Port Huron, Feb. 5.

KENDALL.

THE ATLANTA'S REBUILD.

The Goodrich steamer Atlanta, which has been in dry-dock at Burger & Burger's shipyard, Manitowoc, left the dock last week. She has her new afterbody completed and the fine, clean run and improved sheer aft adds very much to her appearance. The alteration adds 60 tons to her displacement up to the 9-foot water line, and, the builders assert, will lessen the depth of water aft by 22 inches. Her fire-box boiler is for sale, and she will receive two new Scotch-type boilers, furnished by John Mohr & Sons, Chicago. The new boilers measure 10½ x 10½ feet, and are allowed 140 pounds pressure. She will undoubtedly be a much faster boat than before, and it is expected that 15 miles per hour will be her regular gait.

William E. Elliott, chief engineer of the line, with the assistance of a small staff of engineers, is getting the engine and boiler outfits in shape for an early start in the spring. The boilers are being placed farther forward, and this will, it is thought reduce the draft four inches more, so the Atlanta will draw fully two feet less than last season.

WORK AT WEST SUPERIOR.

Four of the largest whalebacks ever built are on the stocks at the American Steel Barge Co.'s yard. The steamer and barge which the company is building for its own service are well along in their plating and a double launching will probably occur soon. The steamship and barge which are building for the Rockefeller syndicate do not make much of a showing as yet. Their keel plates were laid only last week, but work will advance rapidly from this time on, the delay having been due chiefly to the tardy arrival of material. The plates for the new ships ranges from ½ to ¾ of an inch in thickness.

Supt. Kidd has completed an arrangement for storing the plates until they are wanted, which saves much valuable room, and also expedites handling by avoiding confusion. It is a frame in which 4,000 plates may be stored, resting on their edges. It is convenient to the slips, and the plates are readily lifted by a traveling crane which operates the whole 150 feet of the frame's length.

THE NEW CAR FERRY BARGES.

Craig & Son, of Toledo, in constructing the new car ferry barges for the Wisconsin & Michigan Railroad Co. will not follow the gunwale type introduced in the two barges built for this line by Capt. James Davidson. They are to have frames after the ordinary type, and will be steel strapped and have steel chords run through to give them the requisite strength. They will have the same length 36 feet, and depth 12 feet, as the barges first in commission, but will have two feet more beam, this dimension being 48 feet. They will draw 8 feet of water. The cost of the barges complete is placed at \$68,000.

CONSTRUCTION NOTES.

Chew Bros., of Midland, Ont., have decided to add a new tug to their fleet instead of rebuilding the tug Tender. The new tug will be 95 feet keel by 18 feet beam, with a fore-and-aft compound engine. The Tender will be converted into a scow.

The construction of the 12 Rockefeller boats is to be looked after by Mr. Sinclair Stuart, of the United States

Standard Register of Shipping. Capt. H. D. Herriman, of the Bureau Veritas, and Capt. John Hagg, who has been with the Standard Oil Co. for a number of years, and who superintended the construction of the oil carrying barges at West Superior last year. Capt. Mallory is also looking after detail matters.

Messrs. N. L. Playfair, W. F. Cameron, and John Benson, Jr., will build a sloop-rigged yacht at Midland, Ont., to take part in the Georgian Bay regattas.

The new tug to be built at the Ship Owners' dry dock, for Joseph Duherst, of Vermillion, will have an engine 22x24.

The Chicago Ship Building Co. is seriously considering the construction of an engine-building plant.

In 1895 Deputy Collector Wilson, of Bay City, measured six steel steamers of 8,438.94 tons net and four wooden tugs, two wooden schooners, two wooden barges, and two wooden steamers, measuring 6,223.60 tons, a total of 14,661.54. This will be exceeded this year by at least 6,000 tons.

George Mason & Son of Geneva, are at work on a steam yacht which will be ready for the water in April. It is 34 feet long by 7 feet beam, and is to be put on Diamond Lake, near Cassopolis, Mich.

NEW FLOATING DRY-DOCK.

Mr. J. C. McLaughlin, of Brooklyn, N. Y., has formed a stock company and will built and operate one of the new dry-dock and lifting pontoons, invented by Charles Brown, of Port Huron. It has been in the hands of the Detroit Dry-Dock Co. for some time, but they cannot see any money in it and have dropped it. These people see millions in it and no doubt will have one at work by the opening of navigation.

GENERAL REPAIR WORK.

CLEVELAND.—The Shenango No. 2 is to be docked at the Ship Owners' dry-dock. In trying to get her in on Wednesday she stuck, being fully eight inches wider than her drawings indicate. The dam at each end of the gate is being trimmed down to admit her. The Pioneer, in the other basin, had one plate replaced, and left the dock Wednesday night. The tug Chris Grover was also in this dock for minor repairs.

At the Cleveland dry-dock the Aurora finished her repairs as outlined last week, and left the dock Wednesday night.

REPAIR NOTES.

The Mackinnon Manufacturing Co., of Bay City, are rebuilding the boilers of the steamer J. P. Donaldson, and tugs Giant and Avery. They are also building a new boiler for the tug Louise. The company is also engaged with a large amount of work for stationary purposes.

Davis & Sons, Kingston, Ont., have about fifty men employed on a rebuild of the steamer Nyles.

The Lake Shore tug Marion, has been hauled out at Devney's shipyard, Ashtabula Harbor. The iron sheathing has all been removed and the old planking is being replaced with new. She will be calked all over and given a general overhauling.

Henry McMorran has a wrecking claim against the Britannic of \$15,345.

The repair bill on the Owego at Buffalo was \$15,000 and that on the Russia \$10,000. Details of the work were given two weeks ago.

A novel device for protecting the bow of the tug Janie E. Smith from the ice has been made at the McKinnon Iron Works, Ashtabula. The ice plow consists of a piece of one-half inch iron eighteen inches wide and eight feet long, bent V shaped so that it fits the bow at the water's edge. Chains are attached to it so that it may be hung in place, or taken aboard when not needed.

At Miller Brothers' shipyard, Chicago, the steamer John Harper is in dock for a thorough recalking.

Kennedy & Sons, of Owen Sound, are repairing the stern bulwark plates of the Alberta. The damage is not heavy.

The crank shaft of the Robert Wallace is being replaced with a new one at Lorain. Other minor repairs are also being made to the steamer.

Capt. Alex. McDougall thinks the maximum size of lake vessels has been reached, and that owing to delays and inconveniences in port the sizes of ships to be built hereafter will be under, rather than over 400 feet.

FLOTSAM AND JETSAM.

Capt. Charles Wallace, who has sailed the Presley for two seasons, has decided to stay ashore and will be connected with the Wellington Coal Co., of Chicago.

There is once more some talk of constructing a dry-dock at Ashtabula, if the Lake Shore railroad will substitute a swing bridge for the stationary structure which blocks the way to the only eligible site.

The annual meeting of the North Shore Navigation Co. was held at Collingwood, Ont., Tuesday, January 28. M. Burton was re-elected manager, and C. E. Stevens secretary and treasurer.

The Pound Net Fishermen's Association, of Algoma, was formed last week at Spanish Station, Ont., with W. W. Holden as president, J. H. Hawkins, secretary, and J. P. McDonald, treasurer.

Capt. J. S. Donovan, of the United States mail boat Florence B., was badly hurt last Friday afternoon by an iron drift pin falling on him in the Detroit dry-dock while he was at work on the Northern Wave. He was unconscious several hours, but will recover.

General Craighill, chief of engineers, says he has selected a man to fill the place of the late Major Post, successor to Gen. O. M. Poe, but he declines to make his name public just yet.

APPOINTMENTS FOR NEXT SEASON.

The following appointments of masters and engineers for the season of 1896, have been announced by owners:

STEAMER.	MASTER.	ENGINEER.
Andaste.	Ames, Wm.	Steadly, Frank
Briton.	Stratton, S.	Love, Chas. J.
Cambria.	Johnson, Martin.	Donaldson, Grant
Castalia.	Allen, C. C.	Hay, James
Centurion.	Millen, P. L.	
Choctaw.	Ward, John	Lynn, George
City of		
Buffalo.	Edwards, John	Randall, J. G.
Collingwood, Br.	Bassett, W. J.	
Grand Rapids.	Tallfey, Peter	
London. (Br)	Walton, E.	
Midland. (Br)	La France, F. X.	
Parry Sound, Br.	Playter, G. W.	
Toronto. (Br)	Cameron, A. C.	
Davidson, Thos.	Wood, J. O.	
Fairbank.	Moore, Truman	
Fryer.	Townsend, B. D.	Guy, August
German.	Baxter, Wm.	Kelley, F.
Globe.	Campau, W. H.	
Gratwick, (wood)	Jackson, Richard	Parker, Frank
Gratwick, (steel)	Parsons, M. B.	Graves, Henry
Grecian.	Chapman, A. C.	Gilmour, O. H.
Griffin.	Green, O. W.	Mason, G. W.
Hope, G. T.	Jansen, K. A.	Gumlich, Chas.
Joliet.	Rattray, E. T.	Smith, F. B.
Lagonda.	Galton, C. B.	Guy, Edward
Lockwood, C. B.	Jollie, R.	Miller, J. B.
Louisiana.	Colter, John	Stone, Harry
LaSalle.		Tilton, Warren
McWilliams.	Peterson, Chris.	Fetting, Wm.
Marquette.	Chilson, E.	Burrows, —
Mitchell, J.	Cowen, Wm.	Leick, John
Mitchell, S.	Wilford, Thos.	
Moore, J. W.	Neville, R.	Walder, J.
Niko.	Beggs, T. J.	
Nimick.	Wright, D. P.	
North Land.	Stone, Harry	
North West.	Miner, G. A.	
Olympia.	Williams, W. A.	Gregory, W. F.
Owego.	Byrne, John	
Queen City.	Lyon, Ralph	
Rees, W. D.	Shepard, A. M.	Harmon, Fred
Republic.	Landfair, J. A.	Love, Wm.
Roman.	Greenley, A. J.	Wells, S. A.
Sauber.	Nelson, Bernard	Lawley, Peter
Saxon.	Goodsell, W. C.	Averill, Geo.
Shores, Adella	Chamberlain, Wm.	
Sitka.	Benham, C. A.	Howard, John
Smith, Ed (1)	Miller, C. D.	Townsend, M.
Smith, Ed (2)	Townsend, Hoyt	Walderhouse, John
Specular.	Hinslea, Chas.	Bury, A. E.
Spokane.	Jones, B. H.	Dering, Jas.
Tower.	Towsley, C. C.	Lamar, Peter
Vail, W.	McAvoy, John	
Wallula.	Holmes, C. J.	Ellsworth, Elmer
Wawatam.	Mooney, Edward	Dempsey, Edw'd
Yakima.	Dawley, W. W.	McGuirk, Jas.
Yuma.	Buie, Daniel	Skelley, John

SCHOONER.

MASTER.

Baltic.	O'Donnell, Thos.
Camden.	Van Renssallear, J.
Fryer.	Jaques, Ely
Holland, G.	Black, Wm.
Magnetic.	Rodgers, Harry
Martin, Maria	Ely, Henry
Marvin, S. E.	Brines, Wm.
Paige, Jos.	Rose, Stephen
Smith, Augus	Townsend, Owen
Troy.	Dean, H. C.
Yukon.	Forbes, Wm.

A SILVER ANNIVERSARY.

A very pleasant dinner was enjoyed last Monday evening at the Weddell House, Cleveland, in celebration of the 25th anniversary of the founding of the Upson-Walton ship chandlery establishment. Nearly a score were seated about a well-furnished table in a private dining room, and partook of the good things set forth in a bill of fare, which, however, enumerated a few delicacies not served, among them "Corned Beef Hash a la Warrington," this being perpetrated on a member who was too far away to resent it; "Cayahoga River water," and "Manila cigars." There was also the Upson-Walton salad, which appeared on the table; there was, however, no sign of rope or canvass in it. Mr. E. E. Upson sat at the head of the table and Mr. J. W. Walton, who acted as toastmaster, at the foot. On the sides were Messrs. H. F. Lyman, J. A. McGean, E. P. Babbitt, Charles R. Doty, Will Jones, George Lawrence, Harry Beck, Albert Hemmeter, E. A. Walton, J. A. Current, Arthur Lohr and Charles Anderson. There were a few vacant chairs, as Vice-President Chris. Grover, Mr. H. P. Sherwin, manager of the company branch house at Ashtabula Harbor, Alex Inglis, Oliver Upson, and Frank Robinson were unable to be present.

Mr. J. W. Walton, after the table had been cleared, gave some very interesting reminiscences of the early days of shipchandlery. In a directory issued in 1849, he said, he found five shipchandlery establishments and seven saloons. The latter business had increased somewhat, and a smaller number of firms looked after the vessel wants. These five were James Church, Jr., R. Lauerdale, D. Morrison & Co., J. & J. Ross and William L. Standart. In 1859-60 there were six shipchandlers—H. E. Howe & Co., L. L. Lynn, John O'Neil, E. Rotheran, Valentine Swain, and F. Tarry. Mr. Swain's establishment afterward became a part of the Upson-Walton establishment, which was founded in 1871.

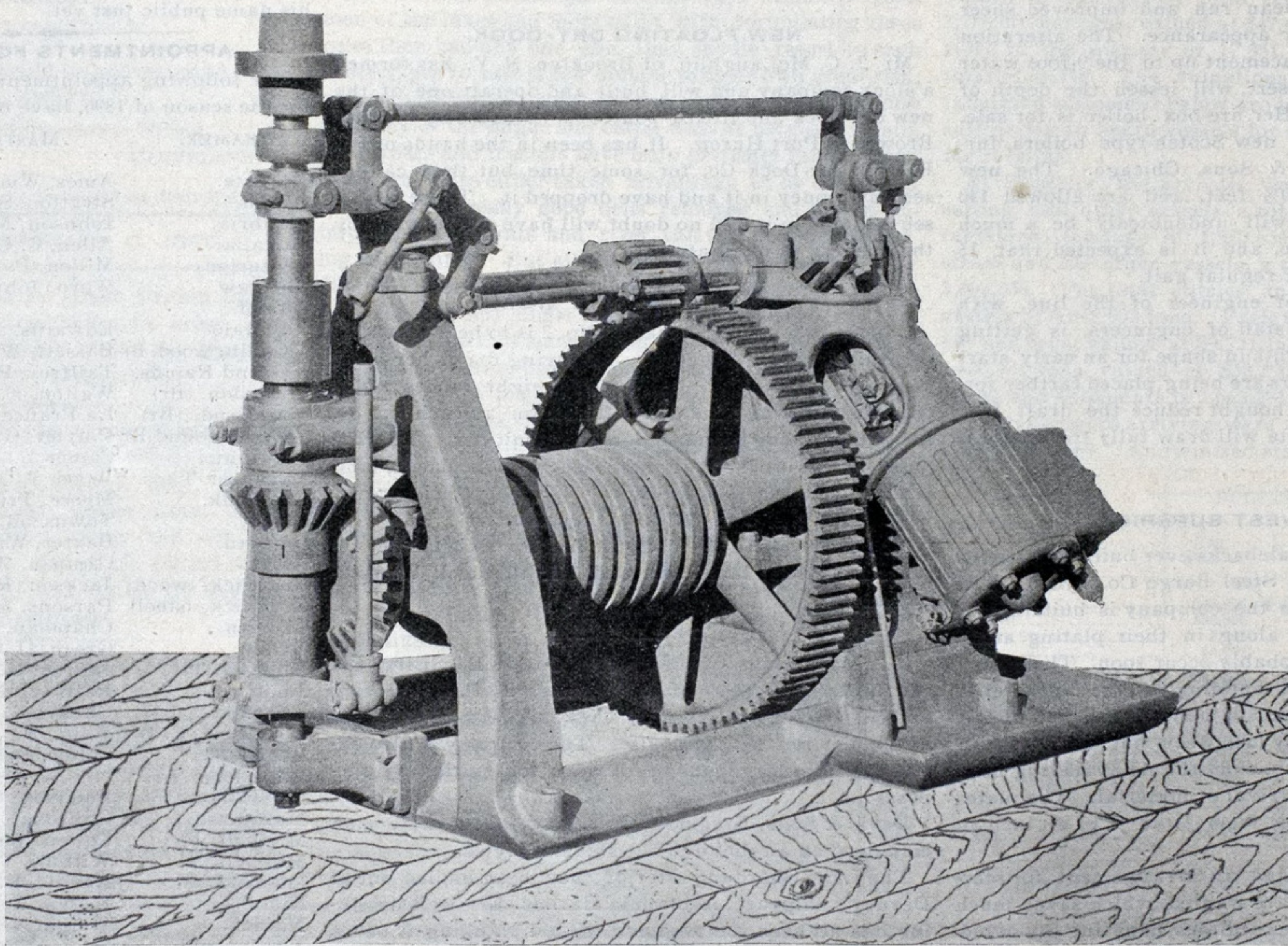
Mr. Walton dwelt upon the changes that had developed in the lake marine and the consequent changes in the classes of goods handled. He remembered the firm's first purchase of wire rope, 1,000 feet, about which they had some misgivings. Finally it was sold, the schooner Alva Bradley being rigged with wire. The firm has continued in this new line, the total purchases in the twenty-five years being 8,544,241 feet, of which 6,230,622 feet, or 73 per cent, has been imported. Nearly half of this has been sold during the last seven years, and the year 1895 was the best, the record for that year being 1,131,177 feet, of which 84 per cent was imported.

Mr. Upson followed with a few remarks in which he emphasized the assistance which the firm had received from the hearty co-operation of the employees, many of whom had been with the firm fifteen to twenty years. Mr. Lyman followed, and then Messrs. Current and Babbitt, traveling representatives of the company, and members of other departments were called upon for remarks. The speeches showed that the firm had taken a hearty interest in the men who were in their employ and had not only set the example of high morality in personal and business life, but had incorporated the concern with a view to giving employees of modest means an

opportunity to connect themselves more closely with the business. The young men have been given every opportunity for advancement and industry and perseverance have been promptly rewarded. Both Mr. Upson and Mr. Walton are in the prime of life, and are likely to live to celebrate the golden anniversary of their firm's birth. But they will have the satisfaction of knowing that when they resign the cares of business into younger hands, they will be entrusted to those who know thoroughly the principles in which the firm has prospered for a quarter of a century and that the establishment will remain a living monument to its founders and their sterling virtues.

THE GLOBE STEAM STEERER.

Two and one-half years ago, when the World's Columbian Exposition was in full swing at Chicago, there were few more attractive displays, and no more instructive exhibits, in the Transportation Building than that of the Globe Iron Works Co., of Cleveland. The space was arranged with three decks, so as to show the workings of capstans and steering gear just as they would appear on shipboard if a section of the top side



ONE TYPE OF THE GLOBE STEAM STEERER.

were cut out. The exhibition created much favorable comment from sight-seers and engineers from other parts of the United States and foreign countries, and was given extended and honorable mention in the daily as well as the trade press, at the time. The accompanying illustration shows one of several types of the Globe steam steering machine. We had hoped to be able to give a full description of its workings this week, but the matter was not ready in time. We hope next week to give a view of another type of this steerer with full descriptions of both. Nearly all the boats built at the Globe yard are equipped with this style of steerer and it has been installed in a number of other ships, the latest of which is the palatial side wheeler City of Buffalo, which will go upon the Cleveland and Buffalo route next season.

The new Hydrographic Office Chart of Lakes Erie and Ontario, is something no master sailing the lower lakes can afford to be without. It contains the latest information regarding depths of water, compass variation, lights and fog signals, and includes Lake St. Clair and Detroit Rivers, besides the lower end of Lake Huron, the southern part of Georgian Bay and all of Saginaw Bay. These charts can be obtained at the office of THE MARINE RECORD, No. 144 Superior street, Cleveland, at 75 cents each.

TRADE AND INDUSTRIAL NOTES.

It has been decided by the Navy Department to supply the cruiser Chicago with four Scotch boilers and six coil boilers of the Babcock & Wilcox type. With these boilers it is expected that a power of 9,000 will be obtained, which will give the ship a speed of 18 knots. The total cost of these boilers, with machinery, will be in the neighborhood of \$300,000. The department is considering what kind of boilers and how many to give to the Atlanta, which is to be repaired at the New York Navy Yard. The proposition that is meeting with the most favor is to supply the ship with two Scotch and four Babcock & Wilcox boilers, which will permit the development of 4,000 horse-power. The cost of the new machinery would reach about \$250,000. The authorities are also desirous of equipping the Atlanta with twin screws. In case this proposition is adopted the hull of the ship will have to be altered. The cost of the changes with the new machinery, it is estimated, will approximate \$400,000.

The Illinois Steel Co. resumed operations at its South Chicago plant on January 27, and all of the other plants will probably resume a week later. The South Chicago mills open with a full double turn of operations, and at practically the same scale of wages as was in force last year. It was expected that the annual shut down would last the full month, as the repairs, alterations, etc., were unusually extensive. Quick work on the part of Supt. Walker, however, in making the annual "clean up" and carrying on the repairs enabled them to open four days ahead of time. The mill starts with a large tonnage booked, and with the demand for rails good. Prices of Bessemer iron, billets and rods are \$1.50 to \$2 per ton higher than they were 20 to 30 days ago, and the general prospect is very favorable.

The Michigan Central Bridge Co., a corporation with a capital stock of \$2,000,000, which has been organized for the purpose of constructing a bridge three miles in length over the Detroit River at the City of Detroit, has filed articles of incorporation with the Secretary of State at Lansing, Mich. The estimated cost of the proposed bridge is \$4,000,000. The Michigan Central Railroad Co. is the owner of 19,930 shares of the stock. The other stockholders are Cornelius Vanderbilt, Chauncey M. Depew and C. F. Fox, of New York; H. B. Ledyard, Henry Russell, Ashley Pond and Henry M. Campbell, of Detroit; each of whom owns ten shares of the stock.

At the annual meeting of the stockholders of the Cambria Iron Company held at Philadelphia on Tuesday last, the following directors were elected. Josiah M. Bacon, Robert M. Kennedy, James McMillen, David Reeves, Powell Stackhouse, Edward T. Strothbury, John W. Townsend, John Lowber Welsh and R. Francis Wood. The company's proud boast is that for 30 years it has never missed a dividend, having paid 4 per cent in the worst of recent hard times and from 10 to 19 per cent during the years from 1880 to 1893.

The steam yacht Willie K. Ridgeway, built by the Jackson & Sharp Co., of Wilmington, Del., has been towed to works of the Neafie & Levy Co., Philadelphia, to receive her machinery.

MARINE RECORD Life Savers' Series.

CAPT. S. F. BERNIER.

A prophet may possibly be without honor in his own country, but Capt. S. F. Bernier, of the Vermillion Point Station, United States Life-Saving Service, has accomplished many deeds of heroism in the neighborhood of his birthplace, during a very lively career. He was born May 19, 1854, at Sault Ste. Marie, Mich., and was given the best schooling that the town afforded. In 1871, or at the age of 17, he entered the general store of Trampe & Co., at the Sault, as clerk. He remained there until June, 1872, when he went tugging in the St. Mary's River, during that and the following season, and during the seasons of 1874-5 acted as captain on a ferry boat across that river. In 1876 and 1877 he sailed on the Ward Lake Superior steamers City of Fremont and Annie L. Craig, from Buffalo to Duluth.

He joined the life saving service at the Vermillion Point station on May 24, 1878, and continued as surfman until October 1, 1880, when he was appointed keeper. His records show that he has assisted a number of vessels in distress, including the steamer S. F. Hodge, stranded in fog; side wheel steamer City of Green Bay, with broken machinery; sloop Abbey, laden with general merchandise, which swamped in the high sea; steamer Mystic, lost rudder; sloops Hannah and Betsey, swamped; steamers India, Olympia, Hesper, Nipigon and Marina, and schooners Melbourne and Delaware, stranded in fog; sloop Hannah, capsized; steamer Margaret Olwill, broken shaft; steamer Huron City, broken cylinder; steamer Mystic, line in wheel. The crew also rescued at one time the schooner C. P. Minch, which became surrounded by a raft of logs and was placed in considerable peril. During this period not a single life was lost within the scope of this station. The value of vessels and cargo saved was \$538,500 as compared with \$400 lost by necessary jettisoning of cargo.

QUERIES AND ANSWERS.

SEVERAL QUESTIONS.

I—Name all the boats which have ever been in the Goodrich Line.

II—Name the builders of the steamers Russia, Cuba, Java, Scotia, India, China, Japan, Arabia, Alaska, and Philadelphia.

III—Did the Manitowoc, now tow barge, ever belong to the Goodrich Line, and was she ever a steamer?

H. G. R.

Franksville, Wis., Jan. 31.

I—The following is an accurate list of steamers, past and present, of the Goodrich Transportation Co., Chicago. "P. S." indicates paddle steamer, and "S. S." screw steamer. The Virginia is a twin-screw steamer, and the Arctic a tug. Those not otherwise marked are built of wood. The vessels of the line which are still in the company's line are marked with asterisks:

P. S. Huron	S. S. St. Joseph
S. S. Ogontz	P. S. Corona
S. S. Wabash Valley	S. S. Navarino
S. S. Union	S. S. Skylark
P. S. Sunbeam	P. S. *Muskegon
S. S. Lady Franklin	S. S. Oconto
P. S. Sea Bird	S. S. *Menonimee
P. S. Planet	S. S. DePere
P. S. May Queen	P. S. *Chicago
P. S. Michigan	S. S. *City of Ludington
P. S. Orion	P. S. City of Milwaukee
P. S. North West	S. S. Michigan (iron)
S. S. G. J. Truesdall	S. S. Wisconsin (iron)
S. S. Ottawa	S. S. *Arctic (tug)
P. S. Alpena	S. S. *City of Racine
P. S. Manitowoc	S. S. *Virginia (steel)
P. S. *Sheboygan	S. S. *Atlanta

II.—The Russia and Cuba were built in 1872, by the King Iron Works, Buffalo; the India, China, Japan, and Alaska in 1871, by Craig of Buffalo; the Arabia, in 1873, by Gibson & Craig, of Buffalo; the Philadelphia, in 1867, by David Bell of Buffalo. The Java and Scotia were also built at the Craig yard, now known as the Union Dry-dock yard, Buffalo.

III.—The barge Manitowoc was built in 1868 by Rand, of Manitowoc, and has always been a sailing vessel or consort.

A GOOD IDEA.

The advisability of organizing a corps of Naval Militia at inland ports is being agitated in Canada. Referring to this subject the "Canadian Military Gazette" says: "Canada must hold command on the lakes, and to make sure of it we must make sure of having men

ready at the outbreak of hostilities to transform the vessels of our lake merchant marine into light cruisers and capable of doing effective duty as seaman gunners. If naval schools were opened at lake ports during the winter, while the lake shipping is in winter quarters and the crews idle, there should be no trouble in inducing many of our sailors to take a course of instruction to fit them to do their duty in defending their country in case of need."

ONTARIO HARBOR IMPROVEMENTS.

The estimates for the next fiscal year were laid before Parliament at Ottawa last week. The appropriations proposed for Ontario public works include the following: Kaministiquia River, Port Arthur, \$10,000; Collingwood, repairs to breakwater, \$2,850; general repairs and 000; Kingston harbor, \$5,000; Lakes Simcoe and Conchi-improvements to harbor, river, and bridge works, \$10,000; ching (regulation of waters) \$5,500; Owen Sound, harbor dredging, etc., \$20,000; Toronto harbor, works at eastern entrance, etc., \$50,000. Fifty thousand dollars is to be expended in the construction of lighthouses.

Port Dover, Ont., the Canadian landing place of the Shenango ferry steamers, is to have a breakwater, on which work will begin in a few days. Its entire length will be 650 feet. The shore end will be built 34 feet from the end of the present pier, and will immediately widen out in a graceful curve until it reaches the end of the new extension to the pier which was built in 1894.



CAPT. S. F. BERNIER.

At this point the breakwater will be 26 feet from the pier. It will then extend further out into the lake for 350 feet. The breakwater will be 12 feet wide all the way out with the exception of the last 40 feet, which will be 20 feet wide. A light will probably be placed on the end. The first 300 feet will be provided with port holes, 12 feet wide and 24 feet apart, so as to allow ice and refuse matter to flow freely out of the ferry ship. A submarine drill and rock dredge are blasting out stone from the harbor entrance, and this stone will be dumped into the cribs for a foundation. The present contract for rock dredging calls for the removal of 3,918 cubic yards, and will probably not be finished before June.

Port Stanley is to receive extended improvements at the hands of the Dominion government this winter, the cost being about \$40,000. This will include reconstruction of the docks, dredging out the harbor; and extension of the pier.

THERE are for sale now at New York 16 out of a fleet of 37 sailing pilot boats which have out-lived their usefulness owing to the introduction of steam pilot boats, and the fixing of established stations from which pilots will go to incoming vessels, this doing away with off-shore cruising.

NEWS AROUND THE LAKES.

BUFFALO.

NEW PACKAGE FREIGHT LINE ORGANIZED FOR NEXT SEASON—WESTERN LINE PASSENGER BOATS VIRTUALLY ABANDONED.

Special Correspondence to The Marine Record.

This is the dullest part of the year in marine matters, but it is the turning point in practically everything. The lake lines are getting ready to negotiate for the boats that they are to lease, the underwriters are talking up spring rates and the supply stores are beginning to lay in stock for the opening. The harbor is entirely open, but there are no movements beyond an occasional shift to and from the dry-docks. None of the grain afloat has been ordered to elevator.

The Union dry-docks have been somewhat hindered in their work by the caving in of the tunnel that connects them, so that it was not possible to flood one without the other.

W. J. Connors has concluded to name his steam yacht The Enquirer, after the newspaper he bought lately. He has hired William Skelton, Jr., for engineer, but has not engaged a master yet. Mr. Skelton was in the Jewett last season.

I hear very little complaint on the part of the excursion boat managers of the proposition to banish the traffic to the foot of Porter Avenue on the river. They say the people will never go down there and that there will be lots of days through the season when the sea will be high enough to drive the boats away from there. The plan was evolved by some of the city officials with the aid of vessel men who wanted to get the excursion boats out of Buffalo creek.

Evans & Son, of Tonawanda, have sold the tug Wisconsin to Hadley, Thompson & Nadle of Toledo.

A. Clark & Co., ship brokers, moved their office across Main street on Saturday to the block at No. 55, in which Capt. Clark is interested.

Joseph A. Boland has been on a trip up the lakes for a great part of the past month. He ought to come back with a big block of summer business in his pocket.

The Terminal elevator is undergoing considerable repairs this winter, of a nature to suggest the strengthening of an old wooden vessel's bottom. Elevators give out about once in so long at the bottom of their bins and have to be refitted.

Capt. Brown, marine superintendent of the Northern Steamship Company, who has the appointing of the masters of the line, confesses that the guesses in regard to the men who are to sail the passenger boats, Capt. Miner for the North West and Capt. Stone for the North Land, are pretty close to the fact, but he is not ready to make any announcement yet. The story that there is to be considerable change in the engineers, he says, is not true.

The delegation of marine men and city officials who went to Washington to ask for favors to the water route is back with the report that the long breakwater to Stony Point is without doubt assured, but that the bridge across Niagara River to Grand Island is probably dead.

It is a trifle tantalizing to have the report that there is a new lake line organized for next season without being able to say what it is or who is in it, but my informant gives as a reason that there must be certain connections made and combinations for through business assured before, it will be safe to say any more. The line will be managed at Duluth, but has plenty of New York capital and a fleet of its own.

F. P. Gordon, the agent on the lakes for the insurance brokerage firm of Johnson & Higgins of New York, is preparing to move his office into the new Guaranty building, where ample quarters have been secured. This is the first time the firm has set up a lake office. Some of the vessel men appear to imagine that the plan is for the brokers to issue policies as the agents do, but they will merely pick up risks and dispose of them to the highest bidders. Rates will be higher this year than formerly, the unsettled part of the question being how much the advance is to be.

Capt. Dan McLeod was down from Cleveland last week, but only on a social visit. There was an entertainment at Capt. George McLeod's which was responsible for the visit.

Similar repairs are about completed on the steamers John F. Eddy and E. B. Hale. Something was defective about their sterns above water and new works have been put on.

The Western Transit Company usually repairs its own boats in winter and now has the Arabia stripped off for a new deck and new bulwarks. The old passenger boats of the line appear to be abandoned, unless they can be sold.

Work on the temporary bridge across Buffalo creek at Michigan street is now fairly under way and the old one will soon be torn away to make room for the new jack-knife bridge that is to be built there. It is greatly needed, as the old one, though safe enough, is not equal to the needs of street traffic.

This is the first winter for a long time when no tugs are to be found on the stocks at any of the yards here. Buffalo has built more of them than all of the other lake

ports, probably, but there is not even a canal tug building now.

Gen. Agent H. S. Fisher of the C. & B. Line, was at Cleveland this week, attending the annual meeting of his company.

John C. Fitzpatrick, general manager of the Crystal Beach line, is spending a few days in New York city.

The bids for dredging Buffalo harbor, Buffalo river and Blackwell canal and Peck's slip were as follows:

For Buffalo harbor—Hingston & Woods, 16½ cents per cubic yard; Carlin, Stickney & Cram, of Detroit, 19½ cents; Buffalo Dredging Company, 17½ cents.

For Buffalo river—Hingston & Woods, 16 cents per cubic yard for removing earth; \$1.57 cents per cubic yard for removing hard material; Carlin, Stickney & Cram, earth 19½ cents, hard material, \$1.54; Buffalo Dredging Company, 17½ cents removing earth, \$1.45 for hard material.

Dredging Blackwell canal—Hingston & Woods, 16½ cents per cubic yard; Carlin, Stickney & Cram, 19½ cents; Buffalo Dredging Company, 17½ cents.

Dredging Peck slip, Hingston & Woods, 16½ cents per cubic yard; Carlin, Stickney & Cram, 19½ cents; Buffalo Dredging Company, 17½ cents.

The increased faith in dams for the restoration of the lost lake levels prompts a vessel man to declare that with a comparatively small outlay the old Emerald Channel near the Dummy Lighthouse, now too shallow to use, could be filled up. He is sure that the level of Lake Erie could be raised by this means enough to meet all needs.

Buffalo, Feb. 3.

CHAMBERLAIN.

CLEVELAND.

A NUMBER OF CHANGES IN VESSEL BROKERAGE FIRMS—THE PROPOSED DOCK AND HARBOR BOARD—VESSEL TAXATION—REPORT OF THE PARK COMMISSION.

The arrangement of offices in the Perry-Payne Building next spring will be quite different from last year. The firm of Moore, Bartow & Gilchrist has lost Capt. John Moore, the senior partner, who has connected himself with W. A. Hawgood, the style of the new firm being Moore & Hawgood. Bartow & Gilchrist will continue in business at the old stand. Mr. C. C. Canfield continues in the vessel brokerage business, and will open an office on the fourth floor. Mr. W. A. Canfield, the well-known coal man, will probably also remove from the sixth to the fourth floor. M. A. Hanna & Co.'s offices will be extended still further, including the offices now occupied by Capt. C. E. Benham, who will take more commodious quarters on the same floor.

We are in receipt of a handsomely illustrated and bound copy of the third annual report of the Cleveland Board of Park Commissioners which amply demonstrates the good effects of having the city's recreation facilities in the hands of a perpetual commission. The report shows over 1,100 acres of pleasure ground in the city, which includes parks already existing in unannexed portions. New and beautiful views of all these parks vary the necessarily rather dry details of the report, which, nevertheless contains much matter of interest. Portraits of Messrs. Amos Townsend and Charles H. Bulkley, the deceased members of the commission, also adorn its pages. The book is from the press of the Cleveland Printing & Publishing Co., and is a credit to them as well as the commissioners. Mr. John F. Pankhurst, general manager of the Globe Iron Works Co., is the retiring member of the board, but his re-election by the Sinking Fund Commission is a certainty.

One of the first striking instances that Cleveland has experienced with Willow street bridge is the vain attempt of the car ferry steamer Shenango No. 2 to pass through the bridge. The Shenango came here to go into dry-dock. She has too much beam to get into the Cleveland dock, and can not get up the river to the ship-owners dock because of the piling protection to the bridge. Several piles had to be pulled to allow her to squeeze through.

Marine Engineers' Beneficial Association of Cleveland, will give their fifteenth annual ball at Merritt's Hall, corner Carroll and Pearl streets, on Monday evening Feb. 10. The following members will be in charge: Committee of arrangements, Wm. H. Kennedy, L. W. Weeks, and Henry T. McAuley; reception committee, C. M. Stoddard, A. J. Aiken, John Smith, Wm. E. Donovan, Wm. Kennedy, George Masters, E. Jenkins; floor directors, O. N. Steele, M. B. Sturtevant; floor managers, J. B. Heyward, A. N. McDonald, H. W. Burton, J. M. Monagle, Wm. Most, C. Plodeck and F. Harmon.

The city government is considering the advisability of creating a harbor commission, to look after the interests of the port. This is meeting with opposition in some quarters, but cannot be too highly commended. It was thought wise to appoint a perpetual commission to care for parks and boulevards, and the same principle applies with even more force to the care of docks and harbors. There are few ports of like importance which are not cared for by an especial board, which sometimes rival in importance the city administration prospect. The perpetual feature, allowing the admission of new members one at a time, is especially satisfactory, as the chief drawback at present is the sweeping changes that occur with each new city administration. The care of

the port is too great a tax upon any bureau of public works to be satisfactorily attended to; and the creation of such a commission is no reflection upon the efficiency of any city government, but would prove, it would seem, an immense relief to the Mayor and his cabinet.

The Board of Equalization are again working on the vessel taxation problem, and the members are spouting away in newspaper interviews in a manner that sufficiently demonstrates the limited extent of their information on the subject. In order to increase the amount of money for politicians to spend, they reach around in every direction, taxing property twice over, and employing "smellers" at an outrageous commission. This is the system of general taxation in Ohio, and an attempt is being made to introduce the same system in rating vessel property. But it should be seen that policy comes into play in the transaction of public as well as private business. The manufacturer meets a competitor's rates when he can, even if he has to shade his own schedule of prices. Railroads do the same thing, New York vessels registered at Buffalo or elsewhere in New York are free from taxation. In Minnesota the tax is only three cents per net registered ton. The Wisconsin law shows an equal desire on the part of the legislators to encourage a class of commercial carriers which operate at a freight cost to the people at about 1-10 the average freight rates of the railroads and yet a set of pretty official money-grubbers, agitate and worry and do all they can to drive commerce out of the city and out of the state by a system of taxation which is manifestly unjust.

And their course does not seem wise, even from a standpoint which would endorse this system. It isn't absolutely necessary for a company which has its headquarters in the smaller towns of the county to avoid paying taxes for purposes in which the vessels have no interest or benefit, to locate even in the state. It would be a little more inconvenient, perhaps, for directors to go to New York once a year, than for them to drive to the country. But they can do it, and it would not be surprising if they did, remove their headquarters outside the State if this infamous system of taxation is kept up. No business man is expected to voluntarily stand a large expense which he can easily and properly avoid, and the employers of the smellers will find out, sooner or later, that they are pursuing a short-lengthed and unprofitable policy.

At the annual meeting of the Nicholas Transit Co., last week, the directors and officers were re-elected, as follows: H. D. Coffinberry (president), I. W. Nicholas (vice-president), P. J. Minch (secretary, treasurer and general manager), U. T. Palmer, John B. Guthrie, and Capt. Wm. Gerlach.

Capt. C. Young, of the steamer H. A. Tuttle, is confined to his house with a broken ankle.

CHICAGO.

STEPS TO IMPROVE THE INNER HARBOR.

Special Correspondence to The Marine Record.

The general committee of the business men interested in the river and harbor improvement work held a meeting last week for the purpose of hearing the reports of the subcommittees appointed at the previous meetings. In the absence of Capt. J. S. Dunham, Murray Nelson acted as chairman of the committee. Those present were:

Murray Nelson, B. A. Miller, C. A. Macdonald, T. T. Morford, George Merriweather, J. A. Channon, John C. Spry, C. K. G. Billings, F. S. Peabody, A. W. Pulver, J. G. Keith and A. J. Galloway.

President Birkhoff of the Real Estate Board was also present. Chairman Nelson reported a conference which his subcommittee had with Maj. Marshall, the United States engineer, concerning the improvement of the Chicago river for the purposes of navigation. Major Marshall, he said, is heartily in favor of the move, provided the city will do its part in the improvement. This he insists, is to enforce a rule prohibiting the dumping of sewage and garbage into the river. Maj. Marshall said he would urge the government to dredge the river to the depth of sixteen feet during the present year, provided the city and the drainage canal authorities act properly toward the river and not permit heavy stuff to be thrown into it. He is in favor of making the stream twenty feet deep. To do this it would be necessary to lower the tunnels at present passing under the river.

He would also favor widening the river and cutting away the corners in its course. The government, he said, would maintain the waterway if the city would keep its sewage deposits from filling up the stream.

The Marine Engineers' Beneficial Association No. 4, Chicago, gave their twenty-first annual reception and ball at Brand's Hall, Wednesday evening, January 29th. It was largely attended by the members of the association and their friends, and a very enjoyable evening was spent.

WILLIAMS.

PORT HURON.

AMERICAN SCHOONER ANTELOPE TO BE SOLD BY CANADIANS—NEED OF ANOTHER LIFE-SAVING STATION—LAST OF THE M. R. GOFFE.

Special Correspondence to The Marine Record.

The American schooner Atmosphere will be sold next Thursday, February 6, at Sarnia, by order of the Exchequer Court of Canada. One-fourth of the purchase money must be paid down, and the balance in 14 days.

Edward J. Kendall, the Port Huron marine reporter, is circulating a petition among vessel men and others interested, requesting the establishment of a life-saving station at or near Fort Gratiot light, foot of Lake Huron. There is need of one there. Had there been a station and crew there, those four men never would have been drowned, trying to rescue the crew of the wrecked schooner William Shupe; nor would the crews of the barge Montgomery and schooner Dauntless have remained in the boats, both full of water and at anchor five miles from Fort Gratiot, for 36 hours until the tug Crosby went and got the Dauntless' crew. The Montgomery's crew went ashore in the yawl. They suffered everything until they were gotten off of the wrecks.

The steamer Wotan will tow the Ogarita and the new Connelly barge building at Marine City.

A "farmers' race" at Marine City, the other day, was won by Old George, aged 27, who has been doing duty around the Morley shipyards for 12 or 13 years.

The Barge M. R. Goffe will never more be in commission, as a gang of men are at work making her into stove wood. In her day she was a flash vessel, but in a few days she will be a thing of the past.

Port Huron, Feb. 5.

KENDALL.

ENGINEERING AND ELECTRICITY AT HOME.

The Scientific Machinist Co., of Cleveland, have laid on our table a large descriptive catalogue of the Institute for Home Study of Engineering. A well written introduction dwells upon the necessity of more technical education among young men who expect to enter the walks of business life, and points out its advantages in co-operation with hand skill. It recognizes that the number of young men able to visit colleges is very small as compared with the large number who desire to do so, and explains that this is the *raison d'être* of this Institute. The curriculum, as given in the catalogue, shows a thorough course of training. This company will mail a copy of this catalogue with terms of tuition, etc., to all applicants mentioning the MARINE RECORD.

Cassier's Magazine for February contains an excellent leading article on "Modern Shipbuilding Tools," which is worth the careful perusal of every shipbuilder. It is from the pen of J. Arthur Gray, and is at once thoroughly instructive and entertaining. As usual with contributions to Cassier's, the article is well illustrated, among the views being a hydraulic riveter built by Wm. Sellers & Co., Philadelphia; vertical bending robes, built by the Niles Tool Works, Hamilton, O.; steam riveter, built by the Percy & Jones Co., Wilmington, Del. and an electrically-driven angle iron shere, built by the Long & Allstatter Co. Hamilton, O., besides several type of English machines for similar work.

Capt. Adolph Freitsch, who sailed across the Atlantic alone in the little sloop Nina, has returned to his home in Milwaukee.

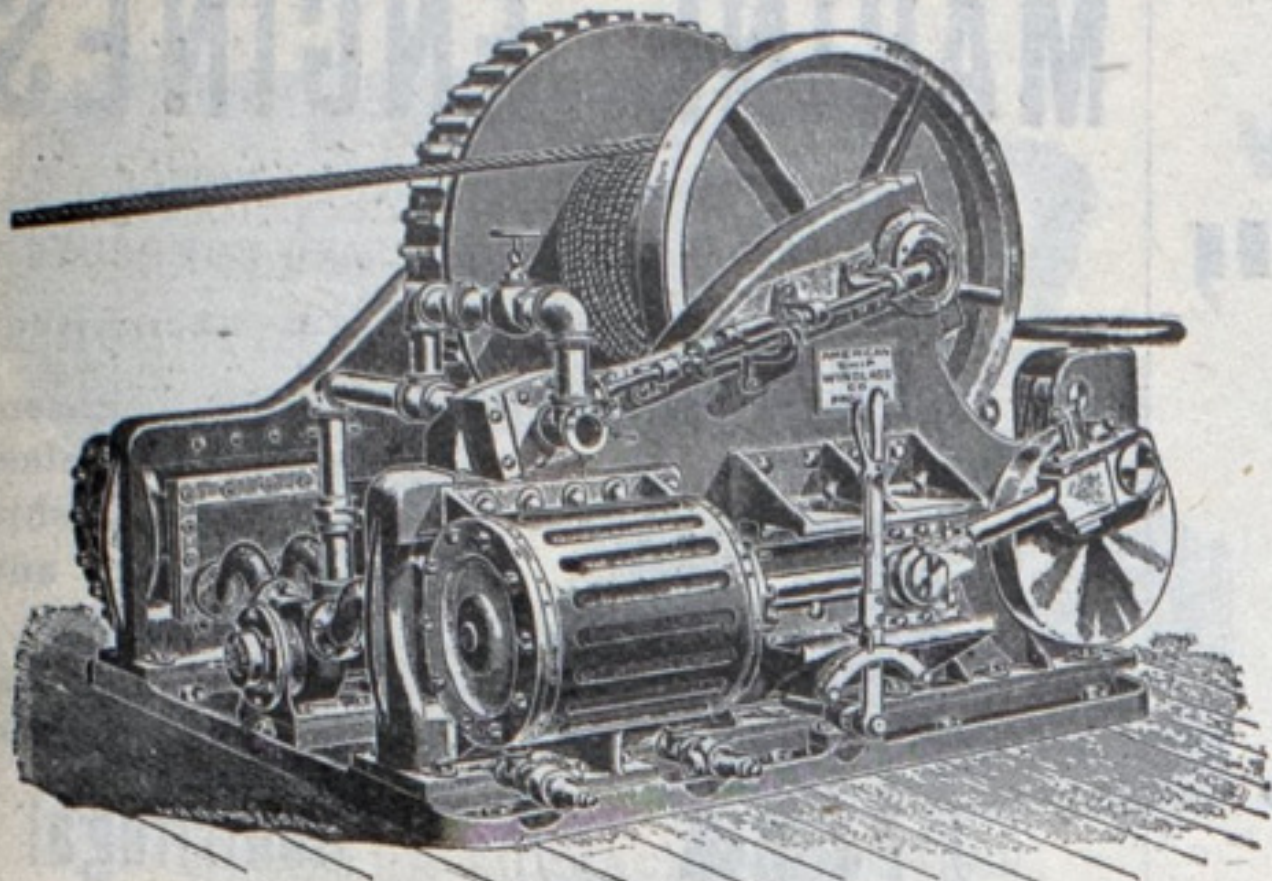
CASUALTY CALENDAR.

JANUARY.

DAY.	RIG.	NAME.	CAUSALTY.	LOCATION.	LOSS HULL.	LOSS CARGO.	LOSS LIFE.	REMARKS.
*1	S. S.	Salina.	Burned.	Lower Lake Huron.	\$12,000	\$1,500	.....
*1	S. S.	H. A. Calvin.	Stranded.	Upper St. Lawrence.	6,500	.....	.....	Total Loss.
*1	S. P.	Shrewsbury.	Col. (dock)	Buffalo Harbor.	2,500	.....	.....	Sunk.
12	S. P.	Idler.	Fire.	Toledo Harbor.	2,000	.....	.....
16	S. S.	Bertha L. Cockrell	Sunk.	Michigan City.	500	.....	.....	Ice.
15	Schr.	Welcome.	Sunk.	Grand Haven.	1,000	.....	.....	Ice.
19	Schr.	H. A. Hawgood.	Fire.	Chicago.	700	.....	.....

* Occurred on Dec. 30 and 31, 1895, and not included in any list of casualties for 1895.

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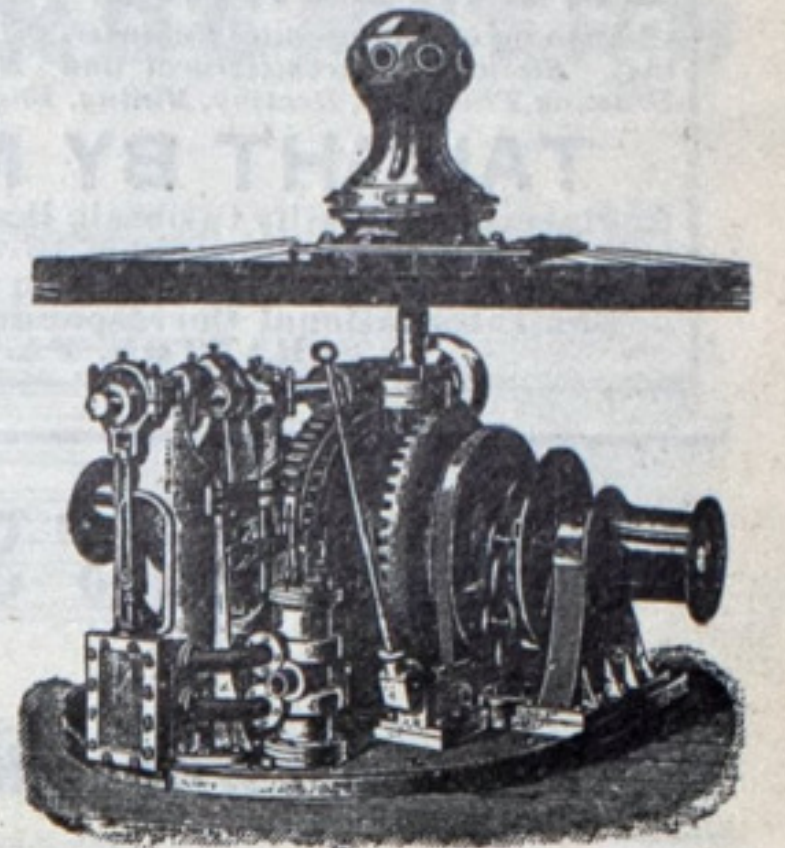
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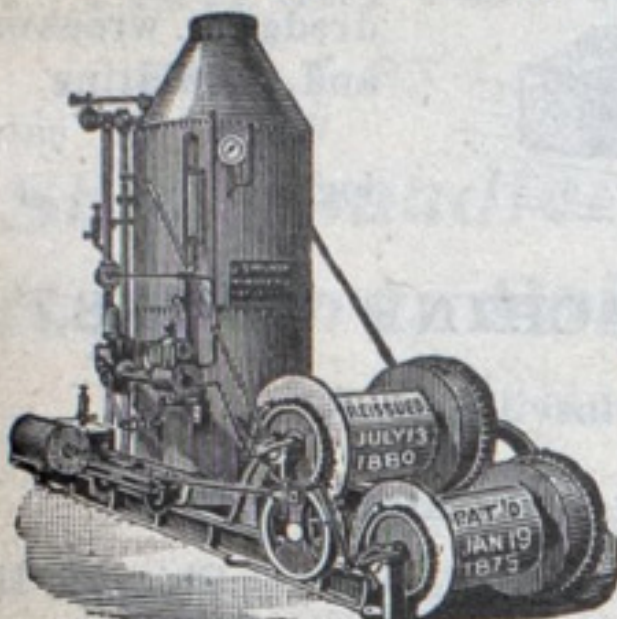
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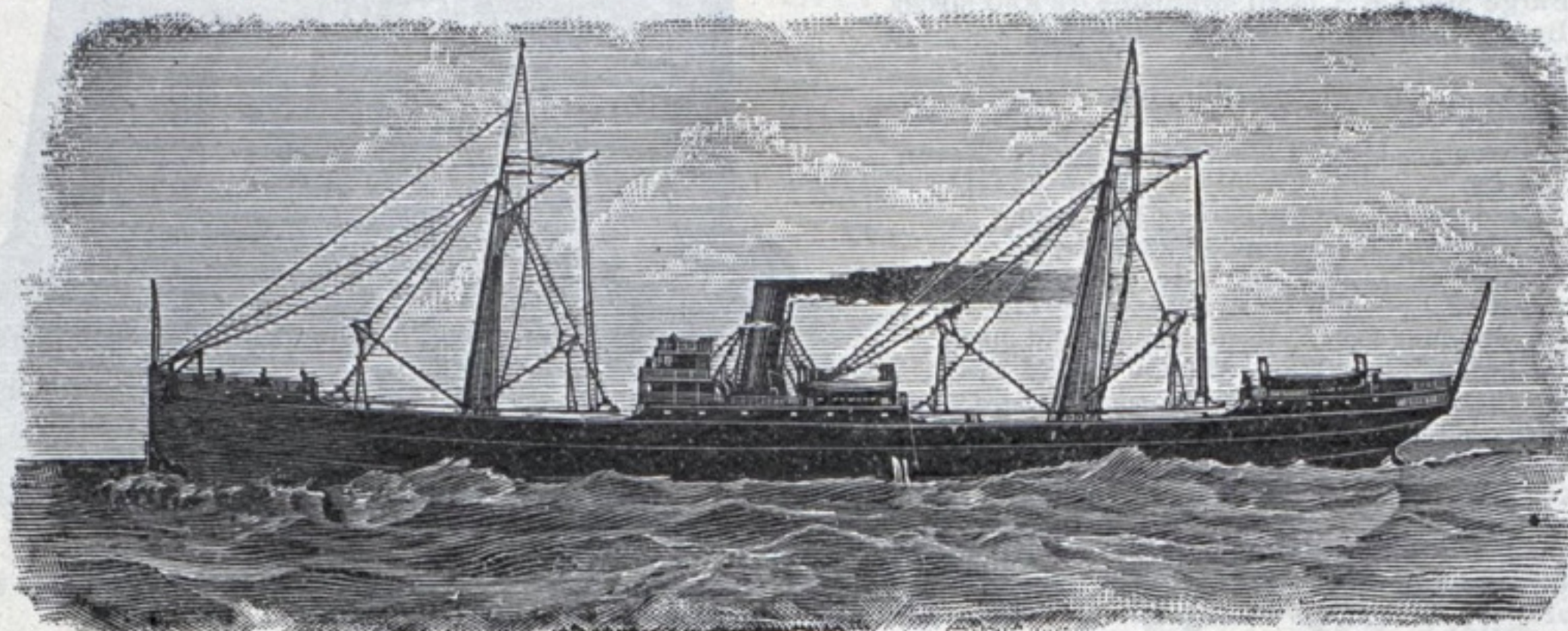
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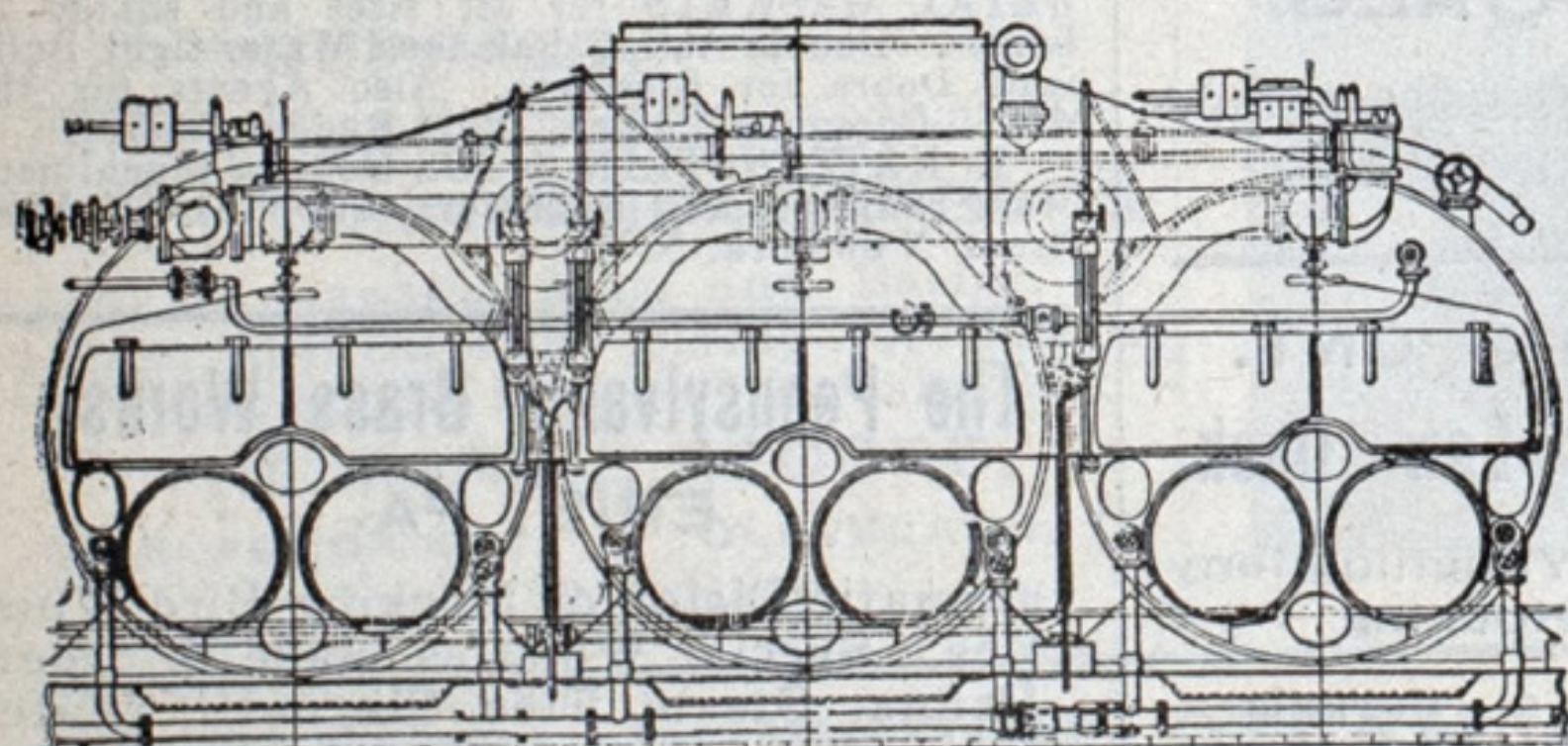
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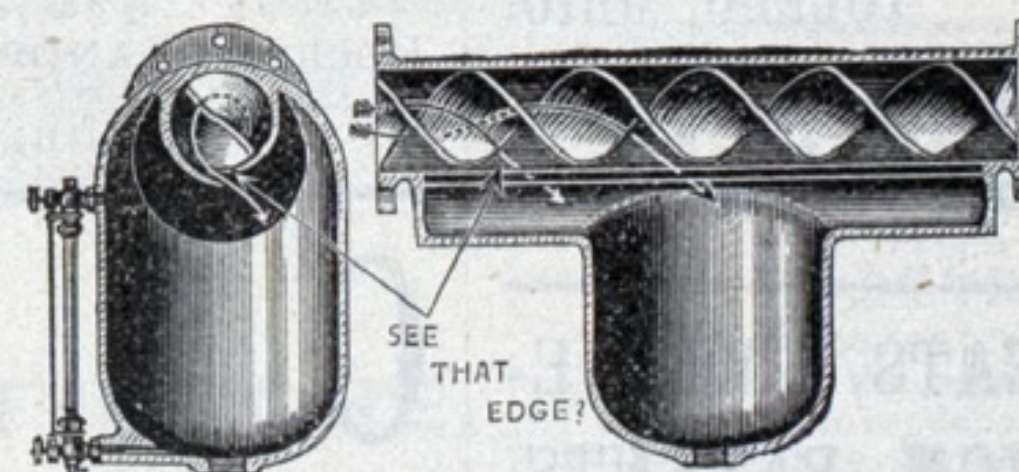
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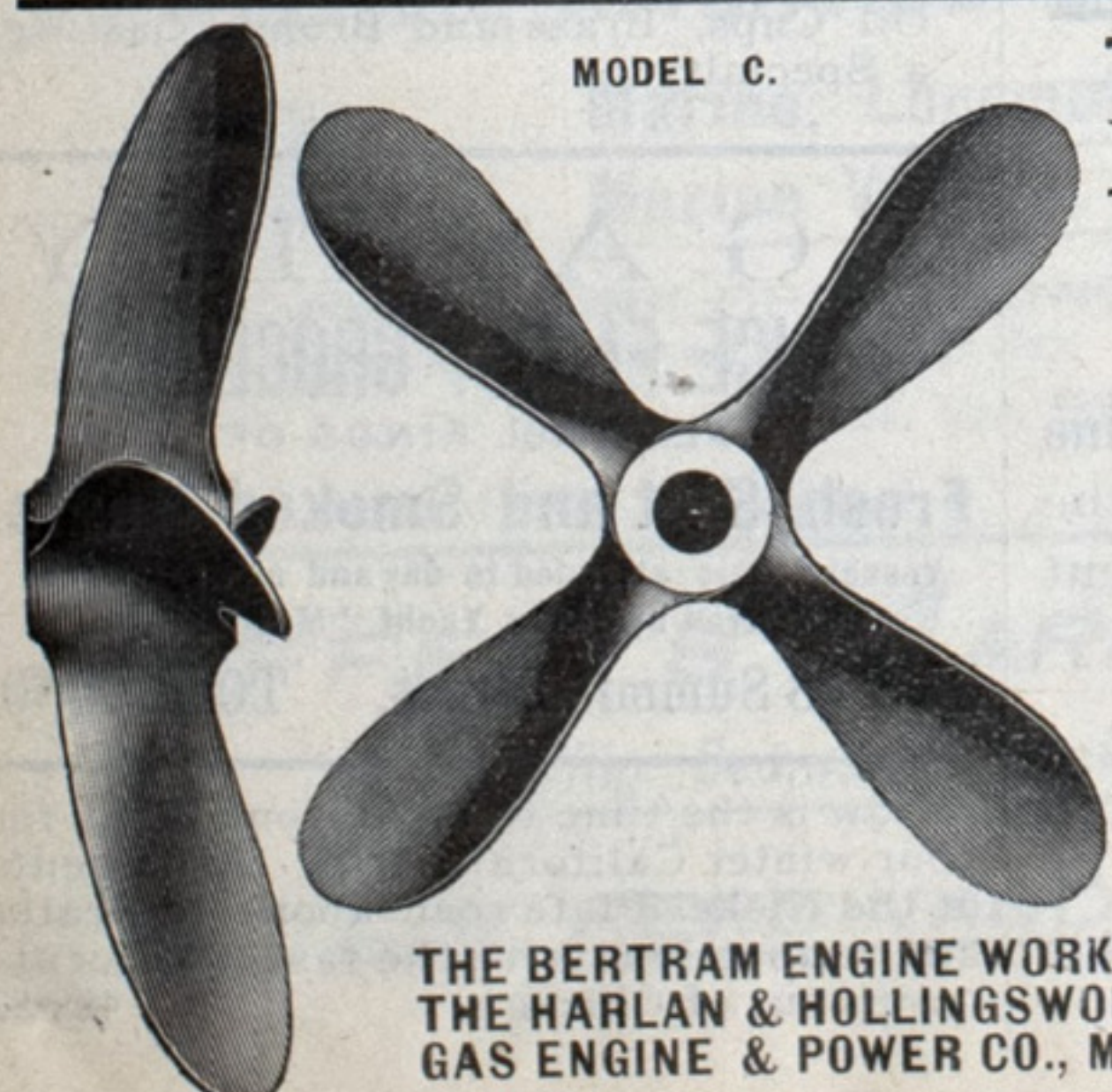
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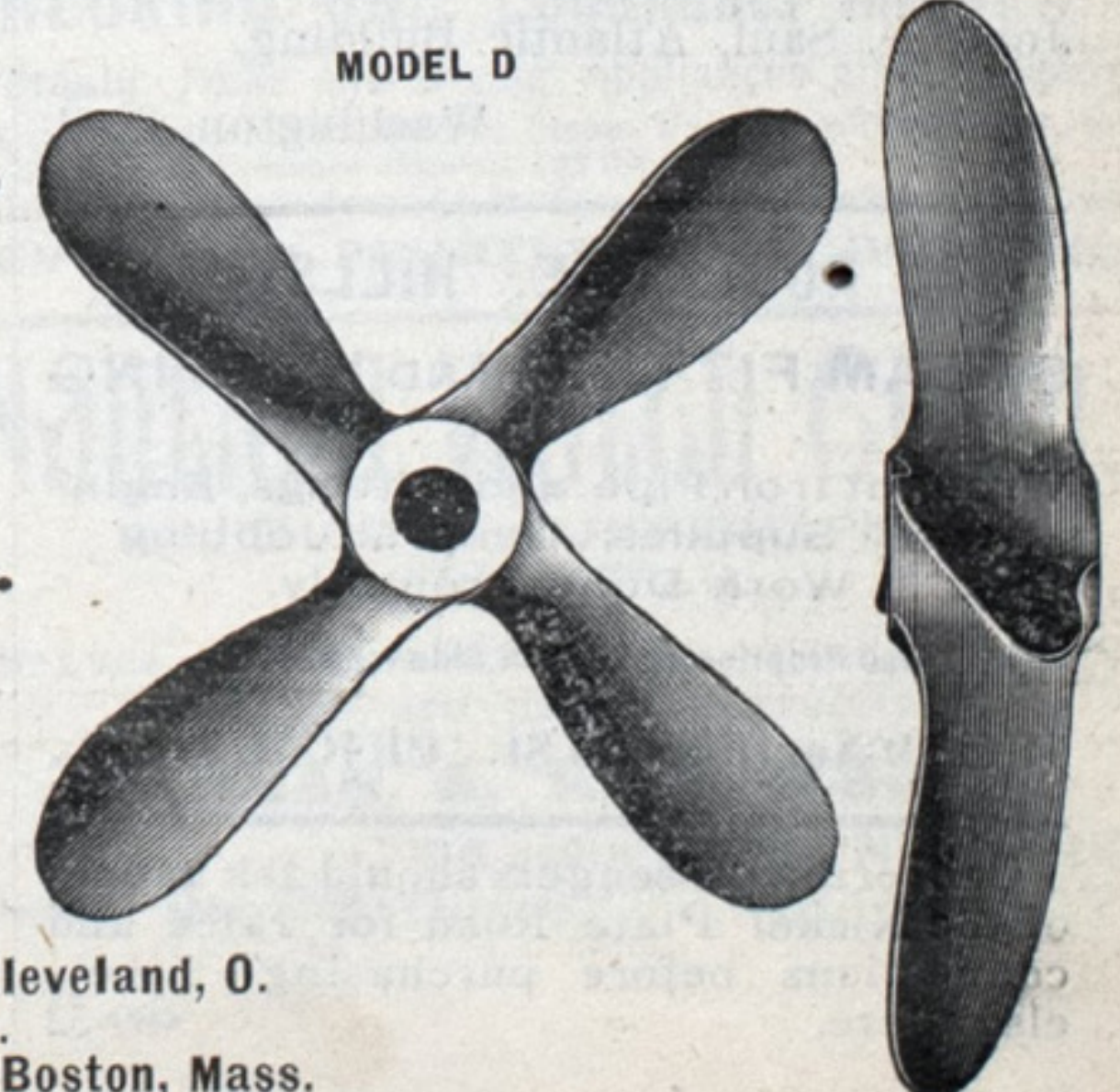
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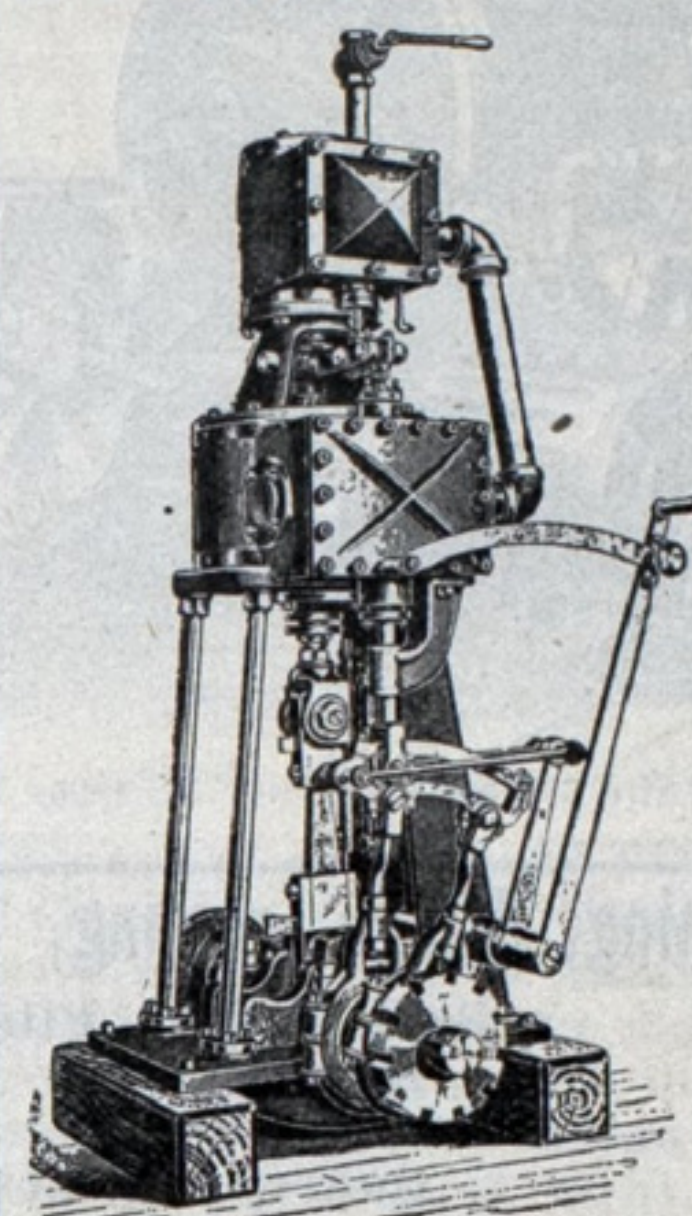
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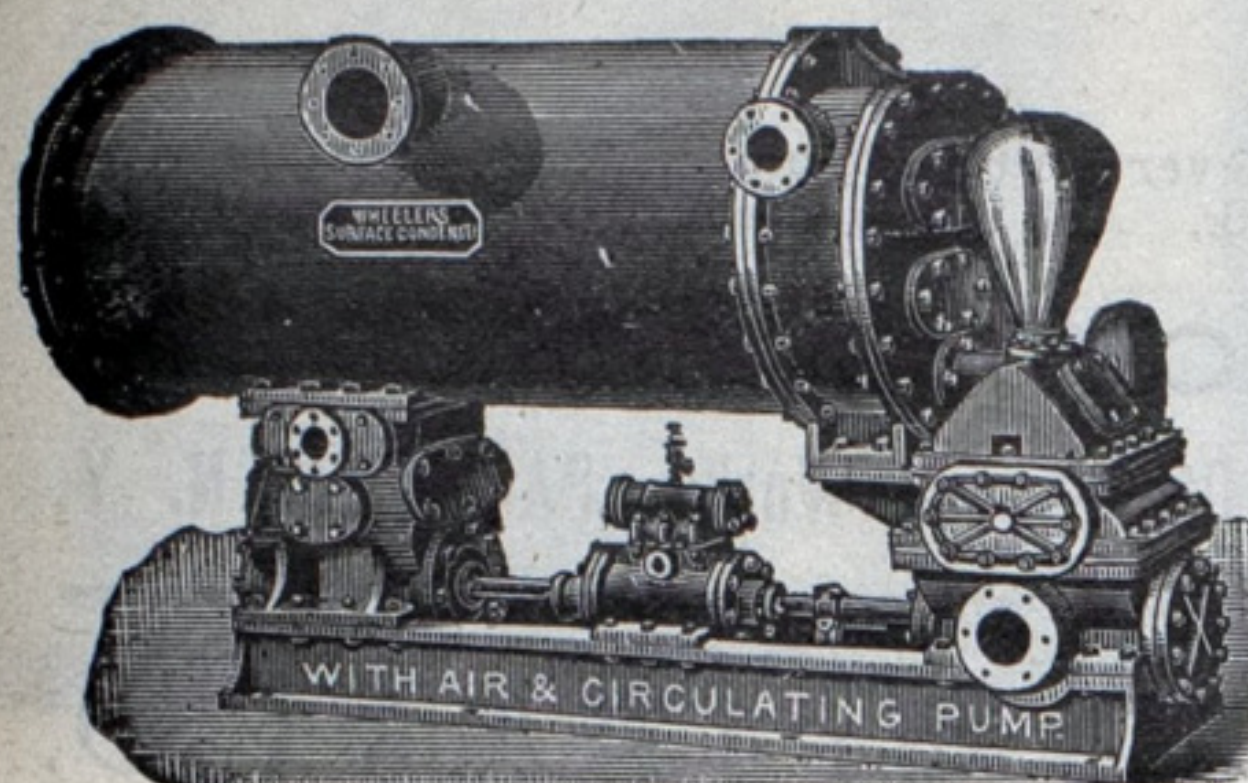
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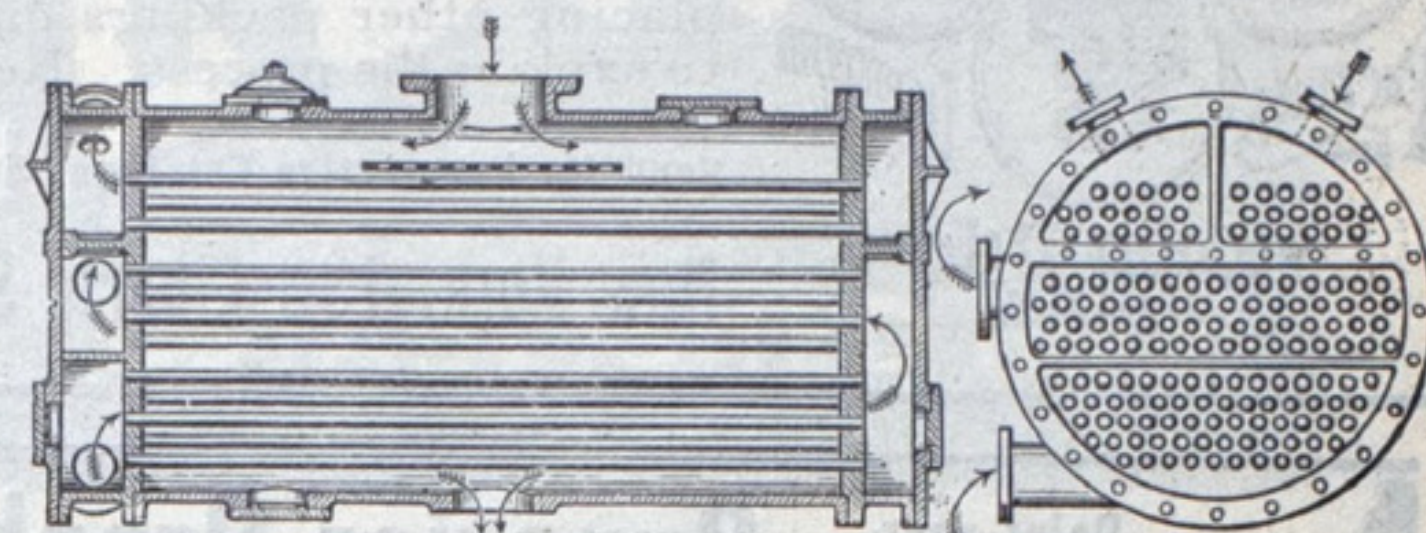
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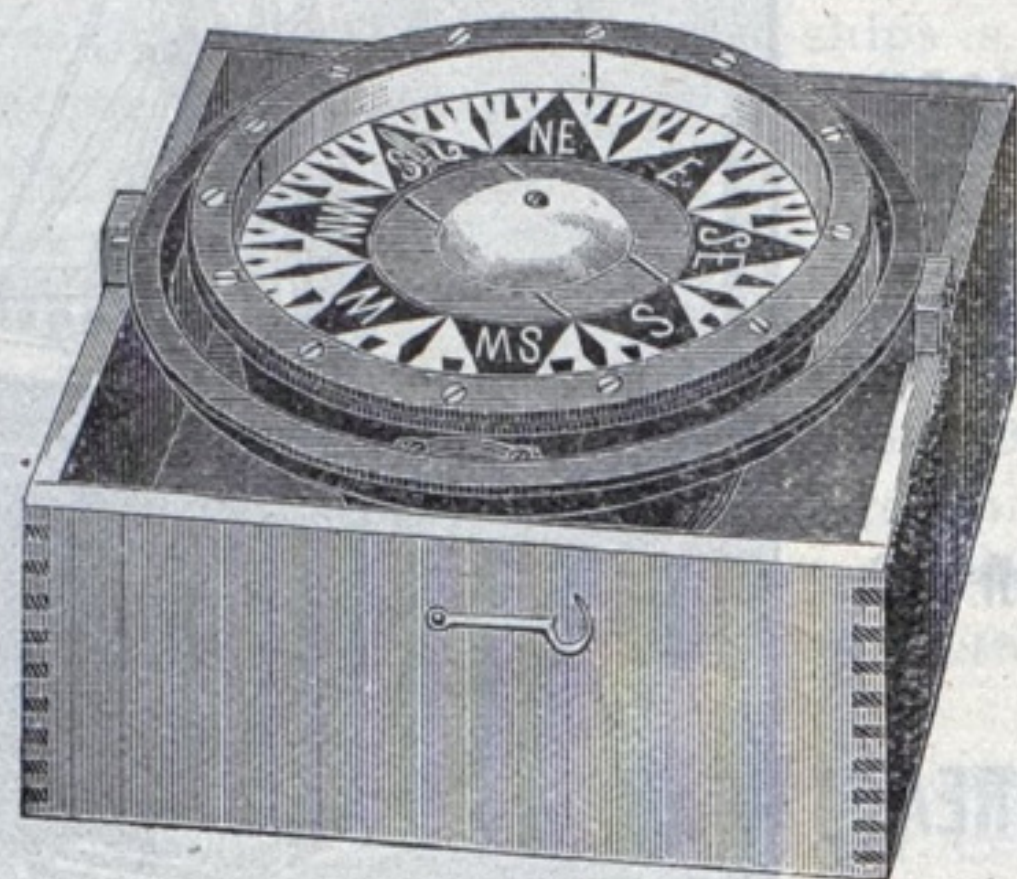
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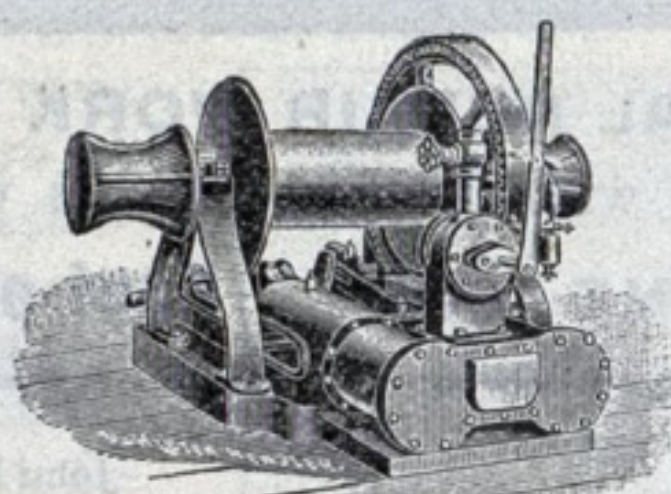
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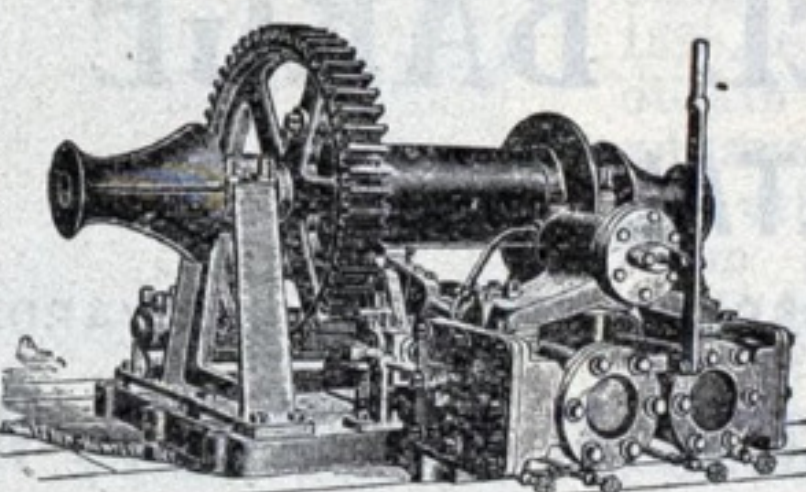


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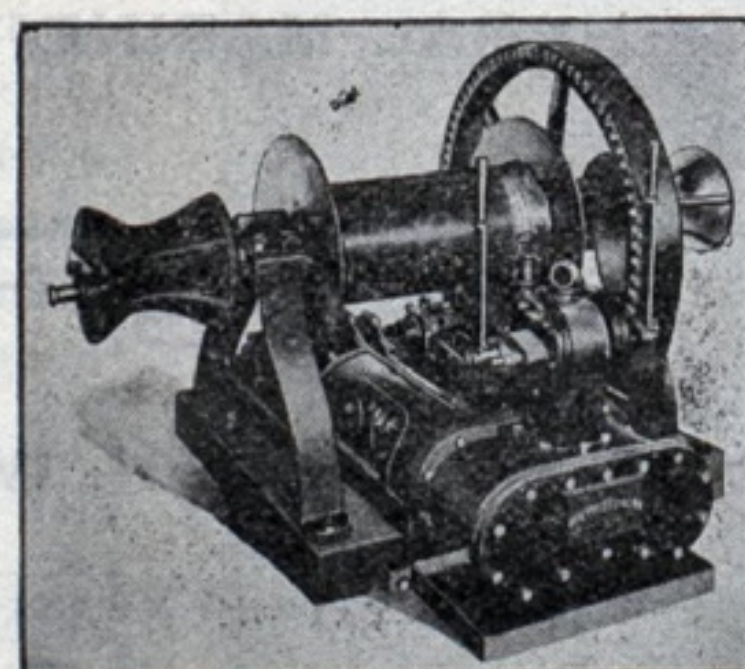
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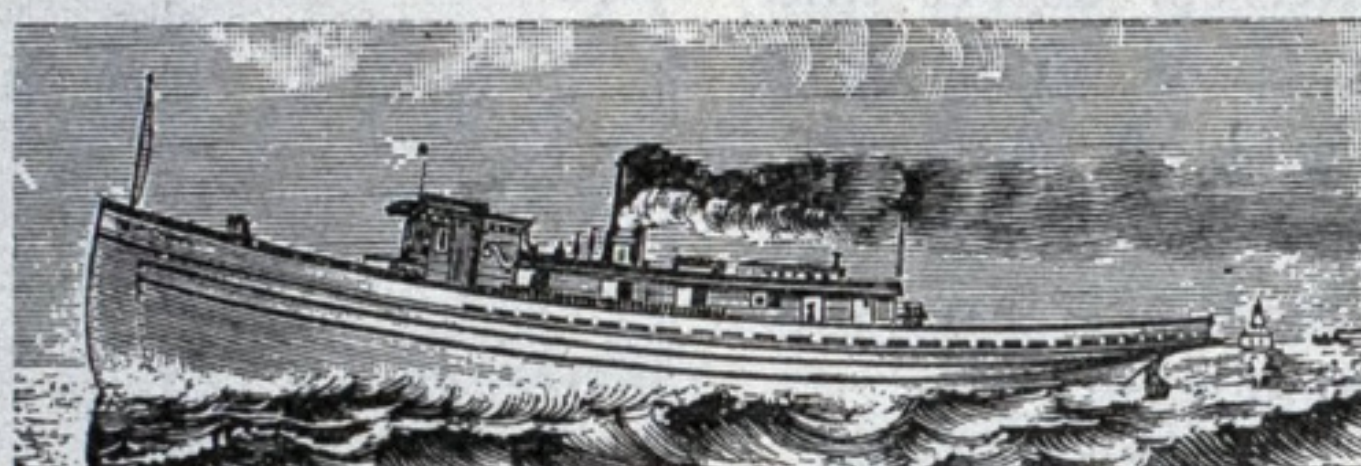
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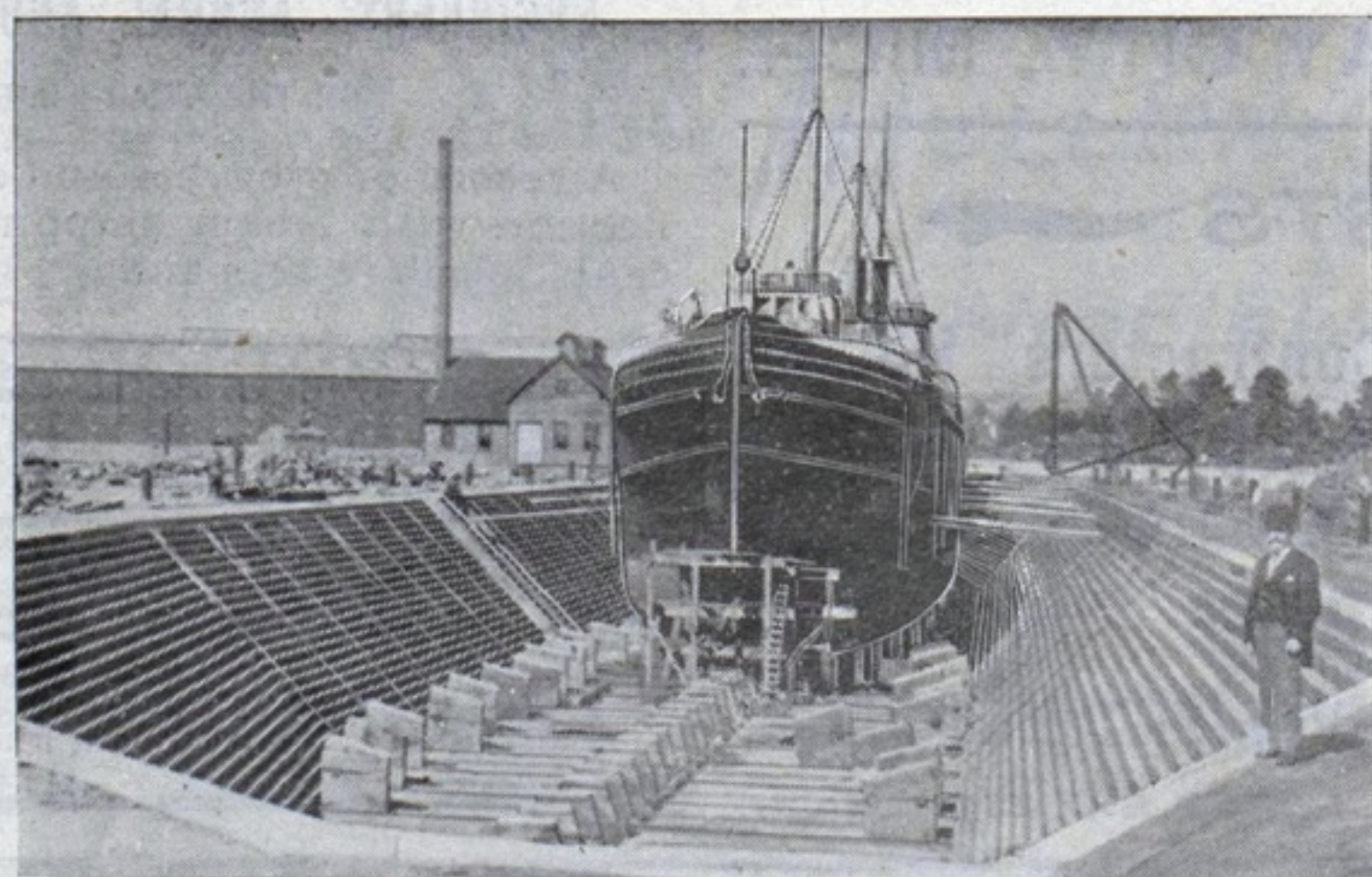
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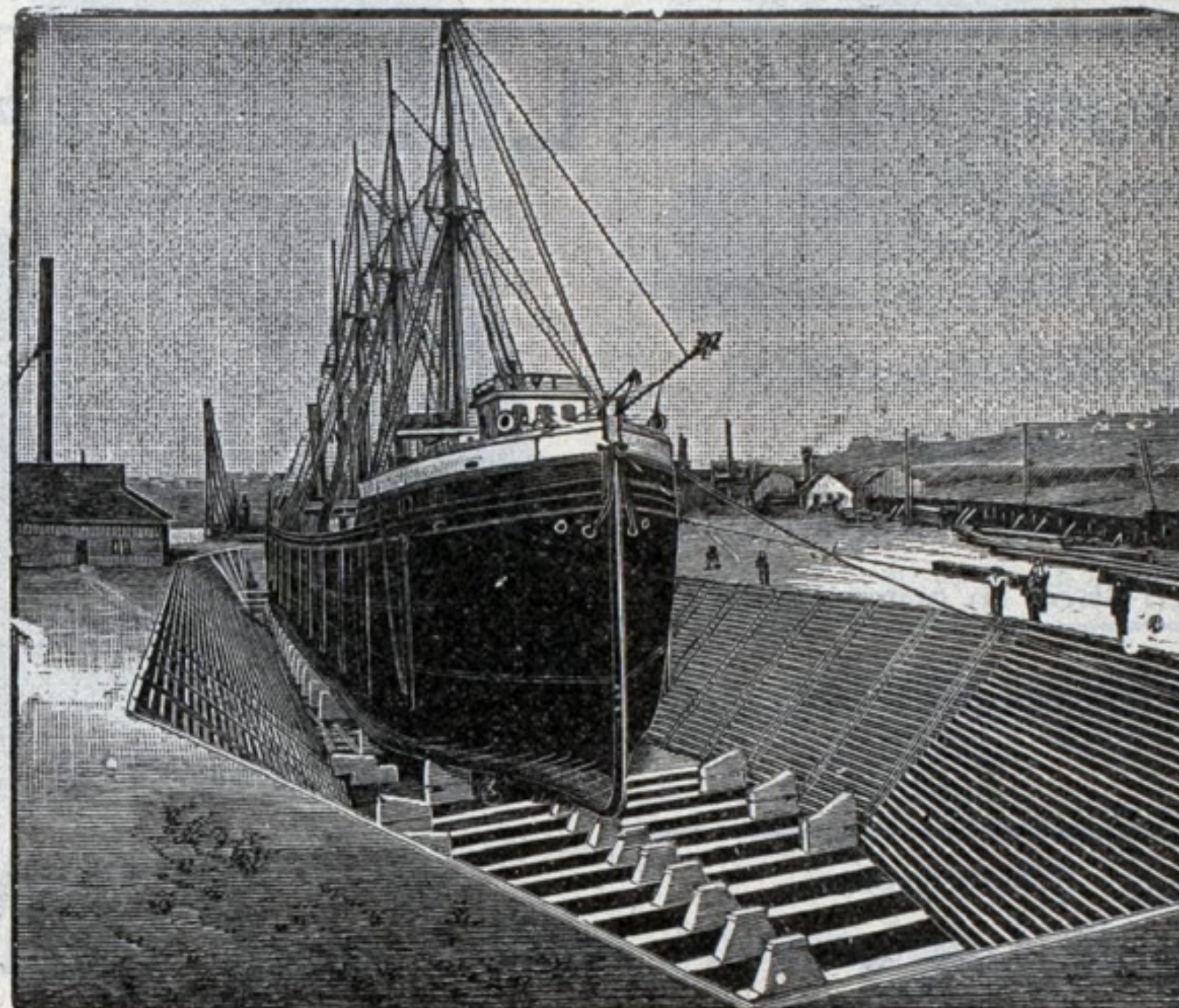
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